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**MACHINES
AND PURCHASING POWER**

MACHINES AND PURCHASING POWER

By
E. F. NASH



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PREFACE

I WISH to thank several friends for assistance in the preparation of this book. I am particularly indebted to Professor P. Sargant Florence, both for persuading me in the first instance that the task was worth undertaking, and for reading the greater part of the manuscript on its completion ; and also to my wife, whose criticisms and suggestions have been unfailingly helpful.

E. F. N.

MACHINES AND PURCHASING POWER

CHAPTER I

THE NEW ECONOMICS

THIS book is concerned with the problem of trade depression. In particular, its primary object is to examine the thesis that depression occurs because the immense development of the productive powers of modern industry has not been accompanied by any parallel development of the mechanism which distributes goods for consumption.

Under modern conditions [says a recent letter to *The Times*] the capacity of industry to produce is unlimited, and the continued existence of destitution, poverty, and unemployment throughout a large portion of the population demonstrates the fact that the present monetary system, the proper function of which is to facilitate the production of goods and their distribution to consumers as required, has broken down, both in its national and international aspects. The system is obsolete and has become a hindrance to the effective distribution of goods.¹

This type of thesis has been maintained with much vigour in recent years, and a number of

¹ *The Times*, 4/4/34.

attempts have been made to write—or to re-write—the economics of trade depressions along these lines. One of the most successful of these attempts, if we are to judge by its popular appeal, is that made by Mr. Fred Henderson in his *Economic Consequences of Power Production*. According to Mr. Henderson depression results from “our failure to diagnose accurately the real character and significance of the change which science has made in our methods of production”.¹ The purpose and effect of modern productive methods, Mr. Henderson holds,

is to make labour obsolete as the physical energy of production. . . . It is in this respect that the term “labour-saving” as applied to the modern machine has a significance much deeper than general usage gives it ; a meaning quite distinct from the same term as it might have been applied to the old tool. . . . The vital and qualitative sense in which the power-driven machine is labour-saving is that the human service associated with the machine has ceased in its essential character to be labour in the old sense. It is not only a matter of dispensing with a certain number of men, but of dispensing with a certain function of labour. What is required from the fewer men is something which differs absolutely in character from what had previously been the labour factor in production ; and the key to it is the disappearance of the power-supply function of labour, the supersession of the physical energies of men’s bodies by other non-human energies as the driving force to which the tool responds.²

The result of these changes has been a tremendous

¹ Op. cit., p. 11.

² Ibid., pp. 19–22.

increase in productive powers, accompanied by an increase in unemployment. But unemployment caused by changes in industrial technique is no new thing. It has been a constant feature of modern economic life since the industrial revolution, and it has not hitherto prevented an expansion in the total of employment, though that expansion has been subject to interruption by periodical depressions. But we have now reached a stage in the economic development of the world, according to Mr. Henderson, when we can no longer expect this process to continue. For increasing employment in power-producing industry has only been made possible, he holds, by the development of export markets for its products.

One country with the world as an overflow for its power-products naturally had an almost unlimited scope for the expansion of its population and their employment. And even as another and another and another of the market countries for which the original universal provider catered became themselves power-producers, outside markets in so wide a world still remained vast enough to provide, though with a growing stringency of competition, some sort of overflow for a time for the earlier comers. But only the simplest prevision was necessary at that stage to discern what must come of it . . . we have now reached the stage at which—with competition intensified almost to the savagery of war, and practically every remaining undeveloped region of the world absorbed into the political system of some one or other of the big producers as an outlet for trade—a proportion of the people of every industrialized nation are unwanted, and their unemployment has become the

outstanding problem which civilization has to face everywhere.¹

We reach the heart of Mr. Henderson's argument, obviously, when we ask why it is that the increasing output of power-producing industry can only be disposed of by export. Why is it impossible to sell in the home market the goods which the unemployed might produce? The answer, according to Mr. Henderson, is lack of purchasing power. "Consuming rights, within the community in which the surplus is produced, are so distributed as to leave the vast mass of human life with insufficient purchasing power to make a home market either for the surplus itself *or for its equivalent* in any commodities for which it might be exchanged." For this reason nations seek to export without importing in return, using the proceeds of their exports instead for investment in foreign countries. —"That is why the older industrial nations such as Britain became creditor nations with vast investments abroad." ²

In other words there is a constant tendency for power-production to produce an "unmarketable surplus" of goods whose existence can only be masked as long as the outlet provided by foreign trade remains available. As the absorptive power of foreign markets diminishes, so the present economic system approaches its inevitable doom.

The compulsion, unavoidable in the purposes and methods of our system of ownership, to produce a home-

¹ Op. cit., p. 81.

² Ibid., pp. 100, 103.

unmarketable surplus; the consequent necessity of going outside for markets; the inability to collect payment from these markets except by developing and equipping them for similar production on their own account; the consequent growth of new rivalries, each stimulated by the compulsion of its own unmarketable surplus; and so, slowly at first but at a rapidly increasing pace as the surpluses multiply and the rivalries grow to desperation, the constant extension of the world area in which purchasing power is unable to absorb output, and the dwindling of the outside area into which ownership can throw the surplus for realization; to set down this sequence of events is simply to trace the main course of economic history during the period in which the new powers have been cramped down into the mere appurtenances of surviving feudal rights of ownership over the world's life.¹

Thus Mr. Henderson, as a socialist, uses his argument in support of the Marxist dogma that capitalism must end by destroying itself.

Nevertheless, his views regarding the nature of trade depression are shared by many who would by no means describe themselves as socialists. The analysis quoted above is almost identical, for example, with that put forward by Major C. H. Douglas, the proponent of "Social Credit". Major Douglas likewise believes that the home market is chronically unable to purchase the goods which modern industry can produce, and that export markets often provide the only chance of selling them without loss. There are many differences, of course, in the manner in which their respective arguments

¹ Ibid., pp. 198-9.

are developed, as well as in the practical conclusions which they draw. Major Douglas, like the authors of the letter which we quoted, lays on the financial system the chief responsibility for the "unmarketable surplus". Mr. Henderson, on the other hand, though he finds much in the financial system to criticize, frames his principal indictment against the system of ownership, with which Major Douglas appears to have no quarrel.

These two writers will here be taken as typical of the school of thought of which they seem to be the most prominent representatives. We shall investigate their claim to the discovery of a "new economics". Our first step, clearly, must be to inquire into the accounts which they respectively give of the origin of the "unmarketable surplus". But, since this inquiry is likely to involve us in a discussion of the existing financial organization, it will be desirable to preface it with a brief account of certain leading features of modern monetary systems. This will occupy our second chapter. To the new economics we shall return in the third.

CHAPTER II

THE BANKS AND PURCHASING POWER

SINCE it is usually regarded as the duty of the State to enforce the payment of debts, the first monetary requirement of a civilized nation is a legal tender currency. This is the name given to the medium in which the payment of debts is enforceable at law. Formerly the legal tender currency of a country consisted of its coinage; more recently it has become customary to dispense with coinage except for small sums and to substitute paper money in some form. The legal tender currency of England consists principally of Bank of England notes. Silver and copper coins are legal tender only for small amounts.

But legal tender money is not the medium in which most payments are made. In English-speaking countries the vast majority of payments are made by cheque. What changes hands when payments are made by cheque is not legal tender money but the right to demand legal tender money from a bank. A cheque is drawn against a bank account; and a bank account is merely the liability of a bank to pay legal tender cash on demand. The person signing the cheque has his bank account

diminished, and the person named as payee has his account increased by the same amount. Since there is general confidence in the ability of the banks to meet their liabilities in cash if required, the liabilities of a bank are accepted in payment as readily in most cases as if they were themselves the legal tender which they give the right to demand. Recognition that a bank's promise to pay is trustworthy makes its fulfilment unnecessary.

It is this use of "credit" in place of legal tender money which is the characteristic feature of modern monetary systems. Other forms of credit may exist besides bank credit. In former times the obligations of individual businesses, in the shape of bills of exchange, also formed an important part of the circulating medium. A bill of exchange is a document signifying the liability of some person or institution to pay a stated sum on a stated date. A cheque is technically a bill of exchange drawn on a bank and payable on demand. A bill can be used in payment for a sum equal to its face value, less a discount depending on the length of time which must elapse before its maturity. To ensure its acceptability everyone passing it on would add his own endorsement as an additional guarantee of payment in the event of the insolvency of the original debtor. Bills of exchange still circulate as money in certain countries, notably France. But in English-speaking countries the credit currency now consists exclusively of bank credit; the obligation to pay is the obligation of

a bank. In other words the task of undertaking such obligations and of making them available in transferable form has become a specialized business. The development of modern banking facilities has driven the bill of exchange out of circulation, though it is still used as a means of borrowing.

Bank credit itself has passed through a long period of evolution. At one time bank credit took the form principally of banknotes. But banknotes have many of the disadvantages of coins for the settlement of large payments, and it is the cheque which is responsible for the modern development of the use of credit. As far as England is concerned the banknote may be regarded as obsolete as a form of credit. The right of note issue is now confined, in England, to the Bank of England, and since Bank of England notes are legal tender, they are no longer credit in the ordinary sense of the word. Moreover, since the abandonment of the gold standard in 1931 they have ceased to be convertible into gold on demand, and have therefore ceased to be "promises to pay" at all, though they are still so designated by the Bank itself.

The use of cheques for the transfer of bank accounts or bank deposits dispenses with the use of legal tender cash. Strictly speaking, a cheque is an order to a bank from someone possessing an account with it to pay a sum of legal tender money to the person named as payee; but in most cases the payee himself has a bank account

and prefers to have the sum placed to his credit at his bank rather than take payment in legal tender. In that case the whole transaction is effected by a diminution of the liability of the banking system to one of its customers, and an increase of its liability to another. The cheque not being presented for payment in legal tender, the total liabilities of the banking system are unchanged ; and so are its total assets. If the cheque is paid in to a different bank from that on which it was drawn, the distribution of assets and liabilities among the different banks will be altered since the bank on which the cheque is drawn will be called upon to discharge part of its obligations by paying the value of the cheque to the payee's bank. But this bank then assumes an additional liability precisely equivalent to the liability which the first bank has discharged. As a whole, the banking system experiences no change in the total of its liabilities, or deposits, and no change in the total of its assets. The " money " which has been used to make the payment is simply a bank deposit.

Since the payments made in this way by the transfer of bank deposits by means of cheques amount to a total many times greater, under modern conditions, than the payments made in cash, it is obviously important to ask how the total of bank deposits is determined. Bank deposits, as the name implies, may come into existence by the deposit of legal tender cash in a bank. But it is one of the misfortunes of economic terminology

that the creation of new deposits in this way is of negligible importance in practice. For in most cases when " money " is deposited in a bank what is deposited is not legal tender money but a cheque ; and this merely means, as we have seen, the transfer of a deposit from one owner to another, and not the creation of a fresh deposit. Even when cash is deposited it is in most cases merely returning to the banking system after being recently withdrawn from it. Cash is withdrawn by employers for wage payments, paid to their employees, and then redeposited by the shops, transport undertakings and other concerns with which it is spent. The return of the cash is part of the regular cycle of events and does not give rise to an expansion of deposits above their normal level. Unless extra supplies of cash are reaching the public otherwise than through the banking system the only way in which an expansion of deposits can arise from the deposit of additional cash is through a change in the monetary habits of the public which leads them to deposit in the banks sums of cash which they had previously kept in their pockets or in their homes.

Thus the initiative in the creation of new deposits at the banks does not lie, to any important extent, with the public. On the contrary it lies with the banks themselves. It is the banks' own policy which is the principal factor in the determination of the total of their deposits. This is the consequence of two facts already mentioned : first, that

what is called a "deposit" is simply the obligation of the bank to pay legal tender cash on demand to one of its customers, or at his bidding; and second, that the deposit itself is money, and can be transferred from one owner to another without necessitating the withdrawal of any cash from the banking system. The first fact means that a bank can "create" a deposit, since it can obviously assume an additional liability if it thinks fit, though it presumably will only do so in return for an equivalent addition to its assets; the second fact means that the additional asset in return for which it assumes the additional liability need not be legal tender cash, since even though the new deposit is immediately paid away to someone else by its owner the bank will not necessarily be called upon to meet the liability in cash. Apart from its reserves of cash the most important assets of a bank are securities and loans—the latter, of course, representing the liability of the borrowers to repay the loan with interest. By purchasing securities and by making loans the banks increase their own deposits. By selling securities and by receiving the repayment of loans the banks diminish their own deposits.

Since a bank deposit is itself money, and since every individual or institution in business on any considerable scale is certain under modern conditions to be a customer of a bank, those who borrow from the banks or sell securities to them will almost always take payment, at least in the first

instance, in the form of an addition to their accounts rather than in cash. The banks lend therefore by increasing the accounts of the borrowers, or, in the case of overdrafts, by allowing the borrowers to draw cheques above the limit of their accounts. Similarly, when the banks buy securities those from whom they buy receive in payment cheques which they pay into their accounts. These cheques being signed by the banks themselves and not by any of their customers, the accounts into which they are paid are increased without any corresponding diminution of anyone else's account. The banking system lends, and purchases securities, by crediting the accounts of the borrowers or sellers. In so doing the banks "create credit". The fact that bank credit is usually the most acceptable form of purchasing power enables the banks themselves to make payments, whether for the purchase of securities or in order to make loans, by assuming additional liabilities rather than by parting with cash or any other asset. This is true, in the end, even if the borrower withdraws his loan in the form of cash. For the cash withdrawn will sooner or later be re-deposited somewhere in the banking system, and an additional deposit created in return for it.

In the same way the reversal of these two processes—the sale of securities by the banks, or the repayment of loans to them—produces the opposite result, a diminution of deposits. When a bank sells securities those who purchase them make out

cheques payable to the bank, and the bank collects payment by debiting the accounts of the purchasers. A loan or overdraft is repaid in a similar way by the cancellation of the credit balance which the borrower would have had if he had not been in debt to the bank. In practice of course the processes of lending and repayment go on simultaneously and must not be considered in isolation. In the absence of a change in the conditions governing banking policy it is reasonable to assume that the repayments and the new loans are equal ; in any event it is the difference between the two, together with any change in the total of the banks' holdings of securities, that must be taken as the factor determining the total of bank deposits.

Since the total of bank deposits thus depends on the action of the banks themselves it is obviously important to ask what are the considerations which determine their action. The banks are on the one hand business concerns naturally anxious to make their earnings as large as possible. Since their profits are derived from interest on loans and on the securities they hold it is to their advantage to make the total of their advances and investments as large as possible. On the other hand the solvency of a bank, more than of any other institution, depends on the confidence of the public, and no bank can afford to allow the pursuit of profits to weaken this confidence, whether justifiably or unjustifiably. It must be able to

meet its commitments under all likely circumstances. Its commitments are of course its deposits, which are liabilities to the public to pay cash on demand (or after short notice in the case of "deposit accounts" or time deposits). Thus the most important consideration affecting the solvency of a bank is the extent to which its liabilities are covered in cash. The proportion of cash to deposits (or reserve-ratio, as it is usually termed) which is to be regarded as safe is naturally different in different circumstances. In general, it may be said to depend on the degree and stability of the public's willingness to hold wealth in the form of bank deposits rather than cash. The greater the preference of the public for bank deposits as against cash the smaller will be the proportion of their deposits which the banks will be called upon in a given time to convert into cash. In the determination of this preference the development of the cheque system, which enables current accounts at the banks to be used as purchasing power without being converted into cash, has obviously been a factor of primary importance. But most small payments are still made in cash rather than by cheque, and wages are usually paid in cash; indeed, wage-earners do not usually possess bank accounts. Cash is therefore always being withdrawn from the banks for making these payments. Though it may be presumed, in the absence of changes in underlying conditions, that the cash thus withdrawn will sooner or later return again,

obviously no bank can expect the daily totals of withdrawals and deposits of cash to balance exactly, and it requires a cash reserve large enough to allow for possible discrepancies.

The individual bank is also liable to be called upon to make payments to other banks. Every day a large number of cheques is drawn by customers of one bank in favour of customers of other banks, and when these cheques are deposited by their recipients they are presented for payment to the bank on which they are drawn. That bank in turn will have a large total of similar claims to collect on behalf of its customers. Though many of these claims can be "cleared" or set off against one another—an operation carried out by the Bankers' Clearing House—there will remain a final difference on one side or the other which must be settled. Once again it must be assumed that over a period of time the claims against any individual bank will be equalled by the claims arising in its favour, but the bank's cash reserve must be large enough to meet possible deficiencies from day to day.

The cash reserve maintained for these purposes by English banks is, as ascertained from their published monthly accounts, usually between 10 and 11 per cent. of their total deposits. Whatever the figure is, it is dictated by custom and experience; and the important point for our purpose is that as long as the practice of the banks with regard to their reserve ratios does not vary

the total of their deposits is fixed by the size of the aggregate cash reserves of the system as a whole. If the reserve ratio is 10 per cent., total deposits will be ten times the total cash reserves. A change in the total of deposits can only be brought about, as long as this ratio is observed, by a change in the total of the reserves. But the total of the cash reserves of the banking system as a whole is outside the control of the banking system itself. In Great Britain, and in other countries whose monetary systems are framed on the British model, its determination is the prerogative of the Central Bank, an institution which is to be regarded as standing apart from the banking system as that term has hitherto been used.

Subject only to the ultimate authority of Parliament, the British Central Bank—the Bank of England—is the undisputed sovereign of the British monetary system. It has come to occupy this position in virtue of the fact that it is a bankers' bank, and the Government's bank, and that it has relatively few dealings with the general public and takes little part, nowadays, in the ordinary banking business of the country. As a bankers' bank it accepts deposits from the other banks—the joint-stock banks as they are conventionally called in this country, though the term is not a satisfactory equivalent to the American expression "member banks", since the Bank of England is itself a joint-stock company. These deposits enable the joint-stock banks to make payments among

themselves, or to the Bank of England, when occasion arises, without the transfer of legal tender cash. It is essential to the Bank of England's position that these deposits should form part of the cash reserves of the joint-stock banks. That is to say, the joint-stock banks, in reckoning up their reserves, include not only the actual legal tender cash in their possession, but also the total of their credit-balances at the Bank of England; and in their published accounts the two items are combined together so that it is impossible to know how much of the reserves of any individual bank is one thing and how much is the other. The origin and justification of this practice is, of course, that a balance at the Bank of England can always be converted into legal tender cash if necessary. Its importance as a means of centralizing the control of the monetary system in the hands of the Bank of England is shown by the fact that when the Federal Reserve System was established in the United States, not only were the minimum reserve-ratios of the member banks fixed by law, but it was provided that the reserves of member banks, for purposes of the law, should be held to include *only* their balances at the Federal Reserve Banks, and not their holdings of legal tender cash.

In the absence of a change in the monetary habits of the population it is impossible for the joint-stock banks to increase their reserves without the consent of the Bank of England. The individual bank, if it finds its reserves unduly low, can

no doubt take steps to increase them by the sale of some of its assets or by restricting its lending. Even then its action will result in a diminution of its liabilities rather than an increase of its cash reserve if the payment it receives is in the form of a cheque drawn by one of its own customers on itself. Such a cheque will entitle it to debit the account of the customer, but not to receive payment in cash. If, however, the cheque it receives is drawn on another bank, let us suppose in return for securities sold to a customer of that bank, or to that bank itself, it will have succeeded in increasing its own reserves, since it will then be entitled to claim payment from the other bank. But this increase of its own reserves will necessarily be accompanied by an equal diminution of the reserves of the bank from which it has received payment. The reserves of the banking system as a whole, and therefore the credit-creating powers of the system as a whole, will remain unchanged.

The Bank of England, however, can allow, or initiate, a change in the reserves of the rest of the banking system in virtue of the fact that part of its own deposits is included in these reserves. Because of this fact any other bank which obtains a cheque drawn on the Bank of England—whether it is deposited by one of its customers or represents a payment made directly to it by the Bank of England,—as soon as that cheque is paid in to the credit of its account at the Bank of England will have received an addition to its credit balance at

that institution and therefore an accession to its reserves. This result may be achieved either on the initiative or with the consent of the Bank of England. If the Bank of England wishes on its own initiative to increase the reserves of the joint-stock banks, it does so by purchasing securities in the open market. The sellers of these securities receive in return cheques drawn on the Bank of England which they deposit in their own banks ; hence the balances of these banks at the Bank of England are swollen. On the other hand, the Bank of England may acquiesce in the steps taken by the other banks to increase their reserves. The first step they take for this purpose is to call in some of their loans at call and short notice to the London money market. The bill-dealers who constitute the money market, unless they can borrow from another bank the funds needed to repay the bank which is calling in its loans, have no recourse but to go to the Bank of England. They sell, or "re-discount", part of their stock of bills of exchange to the Bank, and in return obtain cheques on the Bank of England which, as before, lead to an increase in the reserves of the joint-stock banks. But the price paid for these bills by the Bank of England is always lower than that at which the bill-dealers themselves have bought them, for the rate of discount charged by the Bank of England (bank-rate) is in normal times always higher than that charged by the bill-dealers (open-market rate). The bill-dealers are thus involved in losses

and will therefore only have recourse to the Bank of England when they are compelled to do so. The fact that the London bank-rate is as a general rule higher than open-market rate is an important feature of the British banking system, for it ensures that re-discounting is only resorted to reluctantly and therefore enables the Bank of England to exercise an undisputed control over the reserves, and hence the credit-creating powers, of the joint-stock banks.

Thus because the reserves of the joint-stock banks consist in part of their deposits at the Bank of England, and because the Bank of England, like other banks, can influence the size of its own deposits through its lending policy and through its purchases and sales of securities, the policy of the Bank of England is the final determinant of the quantity of purchasing power made available by the banking system as a whole. But there is another important factor to be taken into account. For almost a century up to 1914 the standard legal tender currency of this country consisted of gold coins. During the war gold was withdrawn from circulation, but the note currency which replaced it was from 1925 to 1931 convertible into gold at the Bank of England at a fixed rate laid down by law. Thus during both periods the value of a pound sterling was made equivalent to the value of a certain determined quantity of gold (or, what comes to the same thing, gold was given a fixed price in terms of English currency). It necessarily

followed that the pound sterling had a fixed value, variable only within narrow limits, in terms of the currencies of all other countries adhering to the gold standard.

The gold standard affects the volume of purchasing power through imports and exports of gold. Gold travels from one country to another as a means of making payments: shipments of gold occur automatically under the gold standard whenever there is a net balance due to or from any country. A net balance is what remains on either side of the account after taking into consideration all the current transactions in both directions—imports and exports, both of goods and services, the lending and borrowing of money, the payment of interest and sinking funds on such loans, the transfer of money for short periods from one country to another. Gold is used, in fact, whenever the total of a country's receipts from other countries is insufficient to meet all its payments to other countries.

The movement of gold out of or into a country affects the volume of purchasing power in that country through its effects on the reserves of the banking system. To obtain gold for export, either on its own account or for any of its customers, a bank must draw on its reserves in order to purchase it from the Central Bank; similarly, gold imported is sold to the Central Bank. Thus the reserves of the banking system undergo an increase or diminution equal to the import or

export of gold. If the reserve ratio is 10 per cent., the ultimate effect is to cause an expansion or contraction of the total of bank deposits equal to ten times the amount of gold imported or exported.

Since the war, however, both the Bank of England and the Federal Reserve System in the United States have on many occasions intervened, by means of open-market operations (i.e. the purchase or sale of securities on the open market), to prevent gold movements from producing these effects on the banking systems of their respective countries. By purchasing securities at a time when gold is being exported, or selling them at a time when gold is being imported, a Central Bank can prevent the reserves of its member banks from feeling the effects of gold movements. The use of this power represents an important departure from the traditional pre-war practice. Before the war gold movements were regularly allowed to produce their full effect on the internal credit situation ; open-market policy was little used, and the stock of monetary gold in the country was the main determinant of the volume of purchasing power. The post-war tendency is to minimize the reaction of international developments on the internal economic situation, and to introduce an important element of monetary "management" into the administration of the gold standard.

However, the freedom of a Central Bank under the gold standard cannot be completely unfettered. As

long as its primary obligation is to maintain the convertibility of its currency into gold it cannot afford to neutralize the effects of gold movements at the cost of endangering this convertibility. The traditional, nineteenth-century theory of the gold standard is that an export of gold ought to result in a reduction of the total of purchasing power because it is itself a symptom that purchasing power is excessive. The export of gold means that a country is unable to meet all its payments to other countries out of the proceeds of its exports and its other receipts from them. The correction of this situation demands a reduction in the total of its payments, or an increase in that of its receipts. A reduction in the total of purchasing power (together with other steps which the Central Bank can take) tends to achieve both these results through its effects on the volume of imports and exports. If there is less purchasing power the prices of goods will on the whole be lower. Compared with foreign goods, home-produced goods will therefore encounter a stronger demand both at home and abroad ; thus imports will be checked and exports will be stimulated, and the tendency of gold to be exported will disappear. Thus to destroy the effects of an export of gold on the volume of purchasing power may be to interfere with an essential part of the mechanism of the gold standard. The working of this mechanism is one of the principal issues in the controversy which now rages round the gold standard ; but

it is clear that the gold standard is unworkable unless there is some means of checking an export of gold before a country's gold reserve is exhausted.

The arguments we are now to examine, however, are not directly concerned with the gold standard, which has only been mentioned here in order to complete this brief statement of the way in which the total of purchasing power is determined. We have found that purchasing power to-day consists in the main of bank deposits ; that bank deposits come into existence as a result of loans or purchases of securities by banks, and go out of existence when loans are repaid to the banks or securities sold by them ; and that the banks can therefore alter the total of purchasing power by allowing the rate of lending to vary relatively to the rate of repayment, and by buying or selling securities. The policy of the banks with which the public deals, however, is closely dependent on the amount of the reserves they hold, and this means that the determination of the total of purchasing power is in the hands of the Bank of England, since the Bank of England is able to control the amount of the reserves of the other banks, a thing which they themselves cannot do.

In the completeness of its control over the monetary system, it should be added, the Bank of England is unique among Central Banks. The ease with which it can control the tendency to re-discount differentiates it from the Federal Reserve System of the United States which ap-

proaches it closely in other respects. Between the Bank of England and the Central Banks of non-English-speaking countries there are wider differences. The Bank of France, for example, is legally debarred from purchasing and selling securities in the open market on its own initiative, and it does not possess the confidence of the ordinary banks of the country to the same extent as the Bank of England owing to the fact that it is frequently in competition with them in the provision of banking facilities for the general public. In addition, the much less widespread use of cheques in non-English-speaking countries, and the frequent absence of law or convention to prevent the variation of reserve ratios by the ordinary banks, are further important points of contrast which make much of the above analysis inapplicable to such countries.

As far, however, as Great Britain, and, with minor differences, other English-speaking countries are concerned, the above account is confined to matters of fact which may be regarded as substantially outside the sphere of controversy. It is presented as a necessary introduction to our inquiry, and its conclusions would, it is believed, be acceptable to the great majority of students of monetary questions, whichever side they may take in the argument we are to examine.

It remains to be added that the total of purchasing power of which we have hitherto spoken, and the total of purchasing power by which the

total demand for the products of industry is determined, are not quite the same thing. The total of bank deposits includes not only the deposits which are actively circulating from one owner to another, but also those held by depositors who have no immediate intention of spending them. This distinction corresponds more or less closely to the distinction between current accounts, or demand deposits, and deposit accounts, or time deposits. The latter, of course, carry interest and cannot be withdrawn except after notice.

The decision to spend or not to spend obviously rests with the owner of the deposit ; and hence the proportion of current accounts to total deposits depends in the first instance on the general willingness of the public to spend. If the willingness to spend is small the creation of additional purchasing power by the banks may merely increase the total of idle deposits, without adding to the total of spending, or to the total demand for the products of industry. If the banks bring about the increase of total deposits by expanding their loans, the presumption of an increase in spending is strong, since no one borrows except to spend. But if willingness to spend is small, the willingness to borrow will also be small, and the banks, being unable to force their customers to borrow, will only be able to expand their deposits by purchasing securities. The presumption that money created in this way will be spent is obviously far weaker. Purchases of securities by the banks may merely

enable investors to hold their wealth in the form of idle bank deposits instead of securities.

The total of *active* purchasing power depends, in fact, on the activity of business, and the same is true of the total of consumers' purchasing power, which is mainly determined by the volume of employment and rates of pay. Banking policy therefore only affects these two totals in so far as it can affect the activity of business. But there is no doubt of the reality of the influence which banking policy, in particular the power of the Central Bank to determine rates of interest, can exert on business activity. This topic is the subject of much of the recent literature of economics, and it has an obvious bearing on the question whether trade depressions are attributable to errors in banking policy, or could be prevented by suitable action on the part of the banks.

This is not the direction, however, in which the theories of Mr. Henderson and Major Douglas are leading us. For their view is that trade depressions are not to be explained by any mere mistake in policy, but as the result of some inherent defect in the existing economic system. However active industry may be, they hold, it can never find buyers for all that it produces without recourse to foreign markets. This would seem to imply that the problem is insoluble as long as purchasing power reaches consumers, as at present, from the disbursements of businesses, and as long as everyone's income is therefore part of the costs of production

of some part of industry's output. Finance, they rightly urge, is at present interested in production rather than in consumption. Money is created by the banks and lent to businesses to finance production, and not (in any significant quantity) to consumers to finance consumption. There is no organ of the existing economic system whose task is to "adjust consumption to production" by distributing to consumers purchasing power not derived from the disbursements of businesses. Whether or not this is an important criticism of the existing system is a question which we can only answer after we have looked more closely at the arguments of these two writers.

CHAPTER III

MR. HENDERSON AND THE UNMARKETABLE SURPLUS

THAT trade depressions are characterized by lack of purchasing power is hardly capable of dispute ; at all events it will not be disputed in this book. The unemployed lack purchasing power and therefore lack the means of giving employment to their fellows. But the thesis we are to examine goes beyond this obvious fact. According to Major Douglas and Mr. Henderson there is an initial lack of purchasing power which causes the unemployment in the first instance, and is therefore not itself the result of unemployment. Whether industry is prosperous or not, whether employment is good or bad, it is still impossible, they hold, to find a market for everything that industry produces. The whole output cannot be sold at a price which is high enough to prevent losses.

This clearly means that the purchasing power which buyers are able to spend in a given period of time is less than the aggregate of the prices which industry must charge, if it is to avoid losses, for what it is selling in the same period of time. These prices must of course cover costs of production and they must allow a profit sufficient to

induce the producers to continue production ; this profit is really a part of costs, in the broadest sense, since it is one of the charges which must be met if production is to be maintained. If the purchasing power spent is equal to costs in this sense the whole output can be sold without loss. This does not mean that each individual business will avoid a loss ; the possibility of a loss in the case of the individual business is important as a stimulus to efficiency and as a means of keeping production in touch with demand. As long as the prices realized in the aggregate are equal to costs there will be no tendency for production to be curtailed, since the losses of one business will be counterbalanced by the extra profits of others.

What Mr. Henderson and Major Douglas have to maintain therefore is that the incomes that the public receives from industry do not enable it to spend an amount equal to the aggregate costs of the goods and services which come forward for sale in the same period of time. It is at this point that they begin to part company. Agreeing closely as to the way in which the problem presents itself, they differ both as to its origin and as to the remedy. Henceforward therefore their views will be considered separately. The remainder of the present chapter will be devoted to Mr. Henderson's view of the matter.

Mr. Henderson ¹ remarks that the costs and

¹ The passages quoted are from *The Economic Consequences of Power Production*, pp. 166 et seq.

charges which must be covered in the selling price of an article if the sale is to be remunerative are the "sum of all payments made in wages, salaries, rewards for services of every kind, dividends, profits, rents, interest and credit charges; everything, in short, which has been disbursed". Since "all the money distributed during the process of production to meet those costs and charges at once becomes purchasing power in the hands of those who receive it", it would seem at first sight, as if the account must balance, as if the total of purchasing power must be "pretty well equivalent to the prices which have to be recovered from the consumers' market". But in practice things do not work out so simply. "If they did there could be no problem of over-production." In fact, "there never is in the home market of any power-producing nation an exercisable purchasing power equivalent to the prices which have to be recovered for its products".

Two reasons are advanced. In the first place, the goods which purchasing power may be used to buy are of two kinds—consumable goods, or final products ready for use in the satisfaction of human needs; and intermediate products, capital goods of one sort or another, whose purpose is to aid the production of consumable goods but which are not themselves consumable. As Mr. Henderson puts it, there are two markets, the market for final products "in which everybody is a buyer", and the market for intermediate

products "in which ownership only is concerned . . . with this market the consumer as consumer is not concerned, and the working life of the community is not a buyer".

The first reason for the shortage of purchasing power is the existence of this second market.

Under an economic system which makes the capitalization of industry—its equipment and financing—the function and mode of living of a section of the population instead of a community function, all money spent in this market on equipment and intermediate products is money put into the ownership system by way of establishing a further claim to the ownership of further products; and it is a constant exhortation to the owners that the incomes distributed to them in dividends and profits should be partly withheld from personal consumption and saved for the purpose of providing the capital equipment of ownership. To the extent to which this is done, there is a surplus of final products on the consumers' market for which no purchasing power is forthcoming, an unmarketable surplus.

For the recovery of costs incurred by the sale of products

can only be effected in the consumers' market for final products . . . When an intermediate product is sold it passes, not into consumption, but into further ownership within the producing system for further handling in or equipment of production. The money passing at its sale is not paid from the consuming system to the producing system in recovery of costs; it is only the taking over by one owner from another of all the costs and charges which are locked up in the commodity at

that stage; and they remain locked up in it, to be carried on, through however many such changes of ownership it may pass, until the completed products, carrying the accumulation of such charges, pass into the consumers' market for the recovery of that total in prices. . . . Re-investment from personal income, therefore, withdraws from the consumers' market purchasing power by which the market is equipped to meet the prices of one serial of production, and returns it unused into the producing system, where its expenditure on intermediate products and equipment becomes a disbursement to be accounted as costs carried into and recoverable from a further serial of production. . . . All money which is spent on intermediate products appears, therefore, twice as costs in the finance of the producing system and enters twice into prices to be recovered from the consumers' market, but only makes one appearance in that market as the purchasing power by which the costs have to be recovered in prices. *The central tribute-collecting purpose of the system, in short, involves it in a perpetual attempt to collect from the consumers' market what the necessities of its own continuance as ownership prevent from being there to collect.*

In concrete terms, Mr. Henderson is maintaining that if a business man saves £100 out of his income and invests it in his business, or if he borrows someone else's savings and uses them for the same purpose, £100 is diverted from the consumers' market, and the goods which it would have brought there become unmarketable. It cannot now reach the consumers' market as purchasing power until *it has reappeared in the prices of a fresh set of final products.* *Mr. Henderson's statement that it will make one appearance in the consumers'*

market presumably rests on the assumption that it will not be again saved by its new owners.

It is the saving to which the shortage of purchasing power for final products is attributed. But the saved money is not hoarded up unspent; it is assumed to be invested in the purchase of capital goods. The possibility that saving may not result in investment forms no part of the argument. It is natural to ask therefore how the fact of saving can really affect the situation. What would have happened to the intermediate products bought with the savings if the savings had never been made? Presumably there would then have been an "unmarketable surplus" of intermediate products. This possibility does not seem to occur to Mr. Henderson. He assumes that the unmarketable surplus always consists of consumable goods. But it is clear that the failure to sell houses or machines may be just as serious a matter for the builder or the engineering firm as the failure to sell bread for the baker.

There is obviously no escape, on Mr. Henderson's argument, from the conclusion that if saving makes consumable products unsaleable, then the absence of saving must make intermediate products unsaleable. An unmarketable surplus must exist somewhere, whether there is any saving or not. But this is only possible on the assumption that it is the insufficient amount of the purchasing power paid out during production, and not the manner of its use, which is responsible for industry's failure

to find buyers for the whole of its output. Mr. Henderson, however, explicitly denies that he is making any such assumption.

There is [he says] as a matter of strict accountancy always a distribution of purchasing power precisely equivalent to the costs and charges determining the market price of products—the two things are indeed the same thing, two sides of the same shilling, the payment which is accounted as costs by the producing system being the receipt by the person to whom it is paid of purchasing power for use in the market as consumer. . . . A purchasing power equivalent to the aggregate of all prices for all products is, in fact, paid out from the producing system as income to consumers.¹

Thus Mr. Henderson's argument is seriously inconsistent. He seems to be unaware, or only half aware, that additions to capital wealth are as much part of the output of industry as consumable products. The total output is, in fact, equal to the total of goods produced and services rendered during a period of time, less those goods and services which are required for the replacement of the materials and durable capital consumed in production. Mr. Henderson realizes that income may be spent in the purchase of capital goods, as well as consumable goods ; he does not seem to realize that costs are also incurred, and purchasing power *therefore, on his own argument distributed*, as much in the production of the one as in the production of the other. His argument implies that

¹ Op. cit., pp. 171, 185.

the available purchasing power is only equal to the prices which have to be recovered for consumable goods ; but he advances no reasons for so unjustifiable an assumption. If we admit that the costs of both kinds of goods are available as purchasing power, then provided the money saved is really spent on capital goods and not hoarded, there can be no unmarketable surplus. The worst that can happen is that the distribution of income between saving and spending may vary from the distribution of output between capital goods and consumable goods. In that case producers of one class of goods will make abnormal profits, while producers of the other class are making losses of equal amount. But this will not prevent the market for industry's products from being on the whole and on the average a remunerative one.

Mr. Henderson's second argument provides, in his opinion, another "contributory reason" for the unmarketable surplus.

The distribution of purchasing power [he says] is not a distribution to all consumers according to the flow of wealth available for consumption or the ratio of production to population. It is the unequal distribution prescribed by our system of ownership ; maintenance allowances for the working life of the nation and the surplus to ownership. . . . This means that the consumers' market is equipped with purchasing power, not *evenly over the whole population, but very sparsely in proportion to output over the general mass of people and in very great abundance to a few ; and this grotesque maldistribution makes a good deal of such purchasing*

power as is distributed ineffective. . . . The purchasing power in the possession of the mass of the people, restricted in this meagre fashion, is insufficient to set power-production going beyond a fraction of its capacity. The nation is not permitted to provide for its own need. Practically the whole of the purchasing power of the general population is used up for sheer necessities, with a small margin of the cheapest pleasures and gratifications without which life would be quite intolerable; and these are frequently only obtainable by cutting down expenditure on primary necessities. The lower margin of ownership incomes has also to be spent on primary necessities, but when this requirement of life has been fully served expenditure in the upper margin of big incomes naturally exfoliates into luxury expenditure. To meet this kind of demand arising from the maldistribution of purchasing power much productive effort is diverted from necessary things which the general life requires but cannot purchase, to the luxury requirements for which a purchasing demand is forthcoming from ownership incomes. Hence a nation which leaves a large proportion of its children without a proper supply of warm clothing—inquire at any public elementary school and see—will be found to be applying a good deal of its labour and materials to the provision of fur coats and wardrobes of fashionable frocks for ownership.

As to the fact that the distribution of incomes under capitalism is grossly unequal, and as to the consequence that the trivial desires of the rich receive satisfaction while the elementary needs of the poor are unfilled, Mr. Henderson's argument is quite unchallengeable. But these points, while they constitute the most serious of all the charges which can be brought against the existing system,

have nothing to do with an unmarketable surplus. What Mr. Henderson's argument requires him to prove is that the inequality of incomes renders the sale of part of the output of industry impossible, not that it permits the sale of too much to one set of purchasers and too little to the rest. As far as industry's ability to sell its products is concerned what is of consequence is the total demand, not the distribution of demand between different kinds of products. A pound spent on caviare is from this point of view as important as a pound spent on kippers. The production of fashionable frocks rather than warm clothing, though it impairs the total want-satisfying power of industry, is nevertheless the production of what can be sold to the rich in place of what could not be sold to the poor. If inequality of income destroys one potential demand, it simultaneously creates another.

Mr. Henderson thus fails to prove his case. If an "unmarketable surplus" is the inevitable feature of our economic system which he holds it to be, he has not provided an acceptable explanation of it. Since his view of the nature of the problem of trade depression is so seriously open to objection, his solution must also appear suspect. Mr. Henderson's solution is Socialism—a distribution of wealth "through a new social control of production, planned for use and consumption according to the world's needs". But, needless to say, there are other arguments for Socialism besides those advanced by Mr. Henderson. His view of

the problem being what it is, it is perhaps somewhat surprising that he should insist so emphatically that Socialism is the only solution. If industry fails to sell its products because consumers lack purchasing power, the simplest remedy would be to give them purchasing power—to authorize the State, or the banking system, to create additional purchasing power and pay it out directly to consumers as a form of income that does not enter into costs of production. Such a proposal is of course part of the Social Credit Scheme of Major Douglas. Mr. Henderson rejects it as based on an illusion—

the old illusion of mistaking figures and measurements and mere tokens for the real things. That the community can secure a social distribution of products, by any imaginable device of distributing tokens for goods without a social possession of the goods themselves—without a control of the real producing resources, and a social organization of production itself, for maintaining the flow of real supplies for distribution—is precisely that illusion.¹

Nevertheless, Major Douglas's remedy seems appropriate enough to the disease of over-production from which both he and Mr. Henderson believe the economic system to be a chronic sufferer.

¹ *Foundations for the World's New Age of Plenty*, p. 99.

CHAPTER IV

MAJOR DOUGLAS AND THE UNMARKETABLE SURPLUS

I. Major Douglas's theory of economics is considerably more complicated than Mr. Henderson's. The failure of industry to sell all that it produces he attributes mainly to a shortage of purchasing power in the hands of the public, but the fact that prices are in his opinion too high, being based on money costs of production which fail to correspond to the true costs, also appears to be part of his explanation. He holds, further, that the shortage of purchasing power may to some extent be corrected by the action of the banks, but that such action can never provide a really satisfactory solution of the problem; at the same time the banks are enabled to dominate in their own interests the entire economic and political life of the world.

Of this elaborate thesis it is the first part with which we are at present concerned. Major Douglas's theory of the deficiency of purchasing power may best be studied in his *Monopoly of Credit* (1931), particularly in Chapter Four, where several distinct lines of argument are presented. It is

maintained first of all that a deficiency of purchasing power is part of the very nature of a "profit-system".

It is impossible [says Major Douglas] for a closed community to operate continuously on the profit-system, if the amount of money inside this community is not continuously increased, *even though the amount of goods and services available are not increased*. . . . If a number of persons continue to sell articles at a greater price than that paid for them they must eventually come into possession of all the money in the community, and the only flaw in such a state of affairs would be that it would be self-destructive, since in a comparatively short period of time a small section of the community would own all the money, and therefore the remainder of the community would be unable to pay, and production and sale would stop.

But this is certainly a fallacy. If a man makes profits by selling goods at a greater price than he has paid for them, however wealthy he may grow in the process, it does not in the least follow that he owns any more *money* at the end than he did at the beginning. He owns more money only if he has failed to spend his profits at the same rate he received them and has allowed his savings to accumulate in the form of unspent money. This he may decide to do if he wishes, but his power to do so has nothing whatever to do with the "profit-system". Anyone else who receives an income, whether it is profits or not, may do exactly the same. If a large number of people simultaneously "hoard" money in this way, no doubt the resulting failure

of demand may have serious consequences. But such action requires an explanation, and Major Douglas offers none. We can hardly follow him therefore in regarding it as an inevitable consequence of the "profit-system".

However, Major Douglas does not pursue this particular argument very far. Believing (for reasons which he does not state) that "profits have ceased to form an outstanding feature of business", he looks elsewhere for the principal explanation of the deficiency of purchasing power. After stating his conviction that the factor which is at the root of the problem is "on its physical or realistic side . . . intimately connected with the replacement of human labour by machine labour", he proceeds to elaborate an argument concerning the effects of saving. It is not the same argument, however, as that advanced by Mr. Henderson. It is illustrated by an example, in which a workman earning £5 a week saves £1 weekly and at the end of a hundred weeks invests his savings in the shares of a new manufacturing company. The company spends the £100 in wages for the making of a machine. Thus the goods the original workman failed to buy owing to his saving can now be bought by those who made the machine. Up to this point therefore no deficiency of purchasing power has arisen. But the machine itself now becomes

a charge on further production for which no purchasing power what ever exists. This proposition may be

generalized as follows: *Where any payments in money appear twice or more in series production, the ultimate price of the product is increased by that amount multiplied by the number of times of its appearance, without any equivalent increase of purchasing power.*

Major Douglas has avoided Mr. Henderson's mistake, for it is not the process of saving and investment of itself which is held responsible for the shortage of purchasing power, but the additional cost which arises when the machine is in use. Mr. Henderson makes no reference to any such additional cost. Nevertheless, Major Douglas's proposition fails to make sense as it stands. The fundamental idea seems to be similar to Mr. Henderson's—that £100 has somehow managed to appear twice as costs and only once as purchasing power. The two appearances as costs in "series production"—itself an unexplained term—are presumably first in the wages of the original workman, and then in the cost of using the machine. Apparently Major Douglas means that the "ultimate price of the product" is increased by £100. In that case we must correct "appearance" to "reappearance". But to what period of time does this extra charge relate? Is it £100 a day, or only £100 a year? We are not given this information, but without it the proposition clearly tells us nothing.

What in fact is the additional cost incurred through the addition of a new machine to the existing equipment of industry? The additional

cost is the interest charge on the capital investment represented by the machine. This answer may seem unsatisfactory, since the firm which installs it will also have to pay for its operation, to buy materials and power, and meet the cost of repairs and eventual replacement. However, if we include these charges we are going beyond the implications of the question—we are including the increase in total costs which is due to the employment of more men or equipment for the supply of these various requirements. Since Major Douglas in his presentation of the argument does not mention these complications, and is equally silent about the possibility that the machine will displace labour (which of course would decrease the total costs of industry by an amount equal to the wages of the displaced men), we must assume that he is not for the present concerned with them but with the cost arising from the use of the machine by itself—the additional cost which would arise if the working of industry is left unchanged except for the introduction of the new machine. For purposes of argument, therefore, and without implying that the supposition would necessarily be fulfilled in practice, we may suppose that those who supply the additional materials and power, and carry out the work of repair and replacement, would otherwise have been engaged in some other occupation—perhaps in doing the work now done by the machine. In that case it is clear that all the extra costs incurred in one branch of industry

are balanced by diminished costs elsewhere, except the interest charge on the machine. This is the new element in total costs.

Major Douglas's proposition is thus misleading in its suggestion that the addition to costs is equal to the capital value of the investment, and not merely to that fraction of the capital value which corresponds to the current rate of interest. But he is right in claiming that the total costs of industry have been increased. The total output of industry has also been increased, and the costs per article of some part of that output will presumably have been lowered, by the use of the new machine. The important point, however, is that the aggregate of costs will be larger—whatever change may have occurred in the costs of each article produced. To meet the larger total of costs an increase of purchasing power would be required. But no increase of purchasing power necessarily accompanies the installation of the machine. If the existing volume of money remains unchanged, and if the rapidity with which it circulates likewise fails to increase, a shortage of purchasing power will result.

There is therefore an important element of truth in Major Douglas's proposition. The increase of capital—and the same is true of the increase of population also, though Major Douglas does not mention it—may require an increase in the volume of money if a shortage of purchasing power is to be avoided. The alternative is a reduction in

the general level of prices and money-incomes, which will enable the existing stock of money to make the required total of payments. But such a reduction can only be achieved by the painful process of depression.

II. Major Douglas's main thesis, however, still awaits our examination. The proposition we have been discussing is only a subsidiary argument. It is concerned with the "financing of capital production by means of the re-investment of savings", but Major Douglas considers it "doubtful whether more than an insignificant proportion of financing is done in this way, the greater part coming from new credits supplied by banks and insurance companies in return for debentures". We may take leave to question the latter statement, but as Major Douglas gives us no account—at least in the present context—of this alternative method of financing investment, we may proceed to the "more generalized view of the defect in the price system which is concerned with the double circuit of money in industry" to which he now introduces us.

In any manufacturing undertaking [he says] the payments made may be divided into two groups: Group A: Payments made to individuals, wages, salaries, and dividends; Group B: Payments made to other organizations, raw materials, bank charges, and other external costs. The rate of distribution of purchasing power to individuals is represented by A, but since all payments go into prices, the rate of generation of prices cannot be less than A plus B. Since A will not purchase A plus

B, a proportion of the product at least equivalent to B must be distributed by a form of purchasing power which is not comprised in the description grouped under A.

This is the so-called A plus B theorem, the chief article of the Social Credit faith.

Major Douglas has now unflinchingly grasped the nettle which Mr. Henderson refused to touch. In his effort to prove that the whole output of industry cannot find buyers at a remunerative price, Mr. Henderson steadfastly refused to maintain that the costs incurred in production fail to reappear as purchasing power in the hands of buyers, though as we saw his own argument was inadequate on any other assumption. Major Douglas makes such a doctrine the keystone of his theory. The individual factory obviously incurs many other costs besides those resulting from payments to its various employees and proprietors. Major Douglas boldly claims that the same is true of industry as a whole. It fails to distribute purchasing power equal to the costs of what it is trying to sell. There is thus a general tendency towards a deficiency of purchasing power, in no way dependent on the circumstance that an increase of capital is being financed by saving.

The *prima-facie* case against Major Douglas's assertion is obviously strong. So serious a defect in the economic system, it would seem, could hardly have escaped the notice of Major Douglas's many predecessors in the study of economic problems.

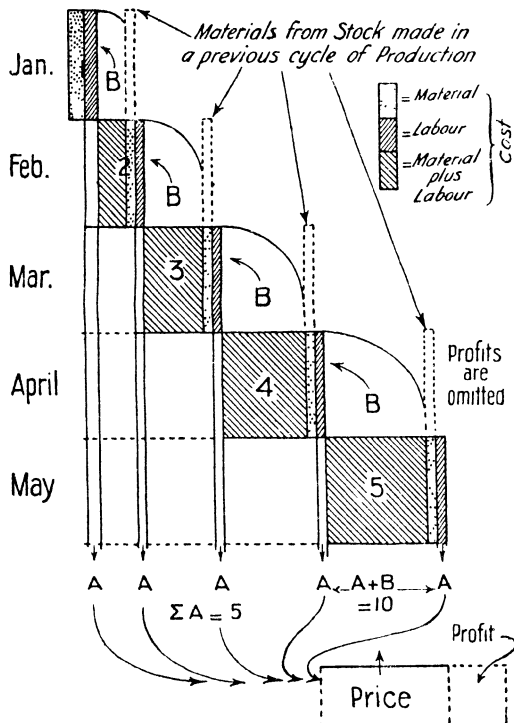
He is, in fact, challenging a doctrine which has been a cardinal principle of economics at least since the time of Adam Smith—that the aggregate of the costs of production and the aggregate of incomes are identical things. Moreover, the application of Major Douglas's theorem would seem to be dependent on the division of the whole task of producing an article between separate business concerns. The "B" costs, which according to him fail to reappear as purchasing power in the hands of the public, only arise because one firm depends upon another for the supply of various materials and services. If all the stages in the production, let us say of bread, from the growing of the grain to the marketing of the finished product, and including the making of subsidiary materials and of capital equipment, were in the hands of a single integrated concern, there would be no "B" costs at all. All costs would consist of payments to the various employees, creditors, and proprietors of the concern. Presumably therefore there would be no deficiency of purchasing power. But the total of costs and the total of purchasing power would not necessarily be different from what they would be under more ordinary conditions. It is clearly impossible to believe that the incomes earned in the production of bread would be altered in magnitude merely because the business paying them ceased to be legally separate entities.

The onus of proving that there is no purchasing power corresponding to the "B" costs therefore

certainly rests on Major Douglas. What he has to show, of course, is that the sums which a baker—to speak again in terms of bread—pays to the miller for his flour, and to other firms in respect of his other “external costs”, are not balanced by the “A” payments which these various other firms are simultaneously making to their own employees. It is obvious that the baker does charge more for his bread than the incomes that he and his employees earn in its production. What he is trying to sell to the public certainly cannot be bought—at a price which he would accept—by the purchasing power which he himself distributes. But are not the other firms in the industry at the same time distributing purchasing power which is more than enough to buy what they themselves are trying to sell to the public? The miller, for example, is probably not dealing with the public at all, but with bakers and grocers. In selling his flour he takes no purchasing power from the public; it is bought with the sums paid—as “B” costs—by the undertakings which he supplies. The purchasing power which he distributes is therefore available to the public for the purchase of final products.

Major Douglas is aware of this difficulty. “The first objection” he says “which is commonly raised” to his theorem

is that the payments in wages which are made to the public for intermediate products which the public does not want to buy and could not use, when added together,



From *The Monopoly of Credit*, by Major Douglas, published by Messrs. Chapman & Hall, Ltd.

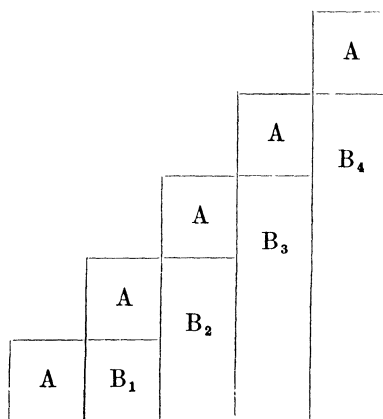
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to appear quite arbitrary. It suggests, however, that purchasing power fails to equal the total cost of the final product owing to the use, in each stage of production, of "materials from stock, made in a previous cycle of production". These materials are represented as adding to the cost of each stage of production, but not to purchasing power. But that is to beg the question. Though the materials were made in a previous "cycle of production" purchasing power must presumably have been distributed in respect of them. This "cycle" ought obviously to have been regarded as one of the stages in the production of the goods into which the materials enter, and the purchasing power distributed in that stage to have been included in the total along with the other "A" items.

It is not difficult to devise a much simpler and more satisfactory diagram for illustrative purposes. Suppose an industry to be divisible into five stages. The value added to the product in each stage of manufacture is equal to the "A" costs of that stage; and the "B" costs of each stage are equal to the value of the product at the conclusion of each preceding stage. As the product passes through successive stages (from left to right in the diagram) the total purchasing power distributed to the public for successive stages (from left to right in the diagram) is equal to the sum of the "A" costs of the stages raised to his total has passed. When it has reached the final stage it is obvious that the total cost in- public for intermediate stages must be equal to the sum of not want to buy and could not

All that the diagram implies is that what appears to the baker as a "B" cost is in reality an "A" cost incurred at some previous point in the history of the product. The "B" costs of the baker consist principally of the cost of flour, we may suppose; but the price of the flour is also divisible into "A" and "B", the "A" part consisting of the incomes earned by those engaged in milling,

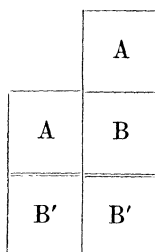


and the "B" of charges carried forward from still earlier stages of production. This "B" in turn can be similarly analysed, and if we proceed far enough it is obvious that the whole of "B" will eventually resolve itself into income or purchasing power, received by someone at some stage or other of the productive process.

It may be objected that we cannot, in fact, trace back a product to its point of origin in the manner

suggested by our diagram, for, however long we continued our researches, we should never reach the point represented by the extreme left of the diagram—an initial stage of production from which there are no “B” costs to be carried forward and which therefore may be regarded as the commencement of the process of production. There is probably no producer in the world who buys nothing at all for business purposes from any other concern, and who therefore has no “B” costs. Thus a complete enumeration of all the different firms concerned in the making of a given product might seem to be impossible. But their number clearly cannot be infinite; and apparent failure to trace all the “B” costs to their origin must therefore be attributed to the reappearance of the same concerns over and over again in the enumeration. Paper manufacturers, for example, incur “B” costs in respect of their materials, but since every business must use paper for a number of purposes, the firms supplying the materials are also customers of the paper manufacturers and therefore incur “B” costs for the purchase of paper. In other words, the manufacture of paper is itself a stage in the production of the materials of which paper is made. The interrelations of businesses, in fact, are much more complicated than any diagram could possibly show. But this does not mean that the costs of the paper which is on sale to the public contain any “B” items which are not balanced by purchasing power in

the hands of the public. For the paper manufacturers obviously do not need to recover in their sales to the public the costs of the paper which they have already sold to other businesses. Paper represents a "B" cost to the suppliers of materials, but the sale of paper to them *diminishes* the total cost which the paper manufacturers must recover from the public. If we suppose, for the sake of simplicity, that the cost of paper is the only "B" item in the costs of the materials bought by the paper manufacturers, the diagram can easily be



amended to take account of the difficulty. The cost of the paper used in the making of the materials is represented as B'. An amount B' of the total costs of the paper manufacturers is covered by the sale of this paper. We can therefore eliminate this part of the diagram which lies below the double line. What remains is a replica of the original diagram, except that it relates to an industry of two stages instead of five.

It is time, however, to return to Major Douglas. Below his diagram appears the following obser-

vation : " Note that any wages earned in respect of e.g. stage 1, if spent before May " (when the final product will appear) " are a cancellation of purchasing power, which will be required in May ". This introduces us to a new line of argument. Not only is the quantity of purchasing power inadequate to buy the products in the making of which it was distributed, but some of this purchasing power will have been spent before the goods in question are ready for sale. Major Douglas appears to use these two arguments more or less indiscriminately. He regards it as

quite beyond argument that the production of such a quantity of intermediate products, including plant, machinery, buildings and so forth, as is physically necessary to maintain a given quantity [output] of consumable products, will not provide a distribution of purchasing power sufficient to buy these consumable products.

This implies that the purchasing power is inadequate in any case, whether some of it has been spent before the arrival of the goods or not. But he proceeds :

To say that at some time or other all the money has been distributed is in the nature of a general assertion which does not bear upon the specific fact. The mill will never grind with water that has passed, and unless it can be shown, which it certainly cannot be shown, that all these sums distributed in respect of the production of intermediate products are actually saved up, not in the form of securities, but in the form of actual purchasing power, we are obliged to assume what

I believe to be true, that the rate of flow of purchasing power derived from the normal and theoretical operation of the existing price system is always less than the generation of prices within the same period of time.

Now we obviously cannot deny that the wages paid by the flour miller in the production of the flour which was used to make the bread now in the bakers' shops have in all probability been spent long ago by their recipients. But this only affects the situation if the flour mill has in the meantime closed down and ceased to pay wages. If the mill is still in operation its workers will receive further wages this week which will enable them to buy bread; and the same is true of the workers in the other stages of production. Of course it is possible that the flour mill will have closed down, but that is hardly to be regarded as part of the "normal and theoretical" working of the industry. If the flour miller stops making flour the baker will soon lack the means of making bread, and the industry will have consumed part of its working capital—the stock of materials in process. Flour milling and bread making, though in one sense successive processes, in fact proceed simultaneously if industry is working normally: there is a constant replenishment of the materials, as of the fixed capital, consumed in current production.

Such a simultaneity only fails to occur where for some reason continuous production is impossible. Harvest occurring only once a year, it is impossible

to replenish weekly the stock of grain out of which the flour is made. But the harvest must then be large enough to provide for a full year's requirements, and the income received for its production is likewise a full year's income. Over the full year the purchasing power received by the farmer must be equal to the cost of the grain entering into the year's output of bread. Only if the farmer spends in the earlier part of the year the income which he should have reserved for later purchases can there be any shortage of purchasing power in the later months.

It appears after all, however, that Major Douglas is fully aware that the separate stages of production are normally at work simultaneously. The fact, he says (in reference to his diagram), that "in the modern world all of these five processes are taking place simultaneously, and that the product can be found in any of the five stages at any moment" is "irrelevant". Its only irrelevance is in the fact that it makes nonsense of Major Douglas's own argument.

III. The remainder of Major Douglas's defence of the A plus B theorem is concerned with a particular type of "B cost", namely "machine charges" or "allocated costs".

A modern stamping plant [he says] may require to add 600 per cent. to its labour charges to cover its machine charges, this sum not being in any true sense profits. In such a case for every £1 expended in a given period in wages, £6, making £7 in all, would be carried

forward into prices. . . . There is no difference between a plant charge of this nature and a similar sum repaid as " B " payment.

But in what sense are machine charges costs if no purchasing power is distributed in respect of them ? It is no use, as Major Douglas observes, offering money to a machine. But machines could not be regarded as costing anything if no money had to be spent on them. It is obvious that apart from the actual costs of operation money does have to be spent on them for repair and replacement and to pay the interest on the investment they represent. The depreciation cost goes to pay the incomes of those engaged in repairing the machine and in making a new one to replace it when it is worn out ; and the interest is the income of the creditor, or of the proprietors of the business if they raised the capital from their own resources.

It is true, of course, that in the case of an individual business the rate at which the depreciation costs are " allocated " may for a short period differ widely from the rate at which the purchasing power is distributed in return for work on the machine or its replacement. We should not expect any individual machine to require spare parts each week. In the weeks during which it required no attention therefore the rate at which costs were allocated would considerably exceed the rate at which purchasing power was expended ; but in the weeks in which repairs were necessary the rate of expenditure would equally exceed the rate of

allocation. In any case it is clear that if the number of machines is large the rate at which they will require repair or replacement will be roughly constant, and that over a period of time long enough to cover the life of the machine the expenditure on repairs or replacements of any individual firm will be equal to the depreciation cost incurred—provided, of course, that the plant is not being allowed to fall into disrepair or obsolescence. If the depreciation cost carried forward into prices exceeds the actual cost of repairs and replacements, there must of course be a mistake at some point in the firm's accounting. It will not really be making a loss if it fails to cover in its sales an exaggerated estimate of its costs.

None of Major Douglas's arguments therefore succeed in justifying his assertion that there is no purchasing power corresponding to the "B" costs of industry's current output. The traditional doctrine of the identity of the costs of production of that output with the incomes of the "factors of production" has survived Major Douglas's challenge without scathe. We cannot give to the A plus B theorem even the qualified assent which we gave to his proposition concerning the increase of capital.

Only one conclusion of positive value can be held to have emerged from this discussion. We may draw from it a useful warning as to the use of terms. When we compare "costs" and purchasing power we must be careful to take "costs"

in the only sense relevant to our purpose as signifying the costs of the final product of industry. If we could add together all the costs, "A" and "B", of all businesses operating at a given time, we should reach a total greatly in excess of the incomes of the public. This is true but irrelevant, for this total gives us the costs of the *gross* output of industry, whereas it is only the *net* output which is to be bought out of the purchasing power in the hands of the public. The costs which the bread-baking industry must recover in its sales to the public are the "A" and "B" costs of the baker, not the "A" and "B" costs of the baker *plus* the "A" and "B" of the miller *plus* all the "A" and "B" costs of all the other firms in the industry. To refer again to our first diagram, the costs which must be recovered from the public are represented by the area of the rectangle on the right, and not by the area of the whole figure. To assert the contrary is to assert that the industry is trying to sell to the public not only the week's output of bread, but also the week's output of flour and grain and all the other materials which enter into bread. These materials are required by the industry itself. They are not part of its net output, but are required for the replenishment of the stocks of materials currently consumed, in fact for the maintenance of industry's working capital, just as the repair and replacement of plant and buildings is required for the maintenance of fixed capital.

There is thus a dangerous ambiguity in Major Douglas's statement that "all payments" (i.e. both "A" and "B") "go into prices". If "prices" means "prices recoverable from the public", and if "all payments" means all the "A" and "B" costs of all businesses, the statement is not true. If on the other hand it refers to the "A" and "B" costs of a firm producing consumable goods—e.g. a bakery—it is true; but in that case it is not true that the public's purchasing power is equal to "A", for "A" now means the "A" costs of the baker, whereas the public receives purchasing power at the same time from the "A" costs of every other firm in the industry.

CHAPTER V

MAJOR DOUGLAS AND THE BANKS

I. We have now made an acquaintance with Major Douglas's theories relating to the deficiency of purchasing power. But, as the term Social Credit implies, it is the banking system which he regards as the most unsatisfactory feature of existing economic arrangements. We may therefore make it our next task to examine his reasons for this opinion. His indictment of the banks is certainly comprehensive. By foreclosing on properties mortgaged to them they acquire control of a large part of the business of the nation. In this way "probably 90 per cent. of trade and business", he thinks, has passed into their hands in ten years.¹ In politics as well as industry their voice is dominant. Control of education and publicity make their dictatorship absolute. Even professional economists, he states, are "necessarily in the direct or indirect employ of banks or insurance companies", and this accounts for their "failure to make any noticeable contribution to the solution of the problems within their special field".²

The policy of the banks conflicts with the in-

¹ *Monopoly of Credit*, p. 58.

² *Op. cit.*, pp. 2-3.

terests of industry principally, it appears, because the bankers require repayment of their loans. When a man borrows £100 for business purposes, he pays it out in wages and salaries, which are costs. He receives back these costs when the goods are sold, and repays the £100.

The banker sets the £100 received against the phantom credit previously created and cancels both of them; there are now £100 worth more goods in the world which are immobilized—of which no one, not even the banker, except potentially, has the money equivalent.¹

When a given sum of money leaves the consumer on its journey back to the point of origin in the bank it is on its way to extinction. If that extinction takes place before the extinction of the price value created during its journey *from* the bank, then each such operation produces a corresponding disequilibrium between money and prices.²

From this it seems that Major Douglas holds banking policy at least partly responsible for the deficiency of purchasing power. But clarity of statement is not one of his virtues, and it is impossible to be sure whether we have here the general reason why the “B” costs fail to reappear as purchasing power, or merely a further supporting argument parallel to those already discussed. This question, however, need not detain us. What the passages quoted purport to supply is clearly one possible reason why the baker should find himself unable to sell his bread. Part of the money paid out in its production has gone out of existence;

¹ Op. cit., p. 17.

² Ibid., p. 36.

it has been repaid to the bank. The money was paid out, let us suppose, by the miller when he was making the flour which the baker has now used up ; the miller's employees spent it on retail purchases, and the shopkeepers who received it forthwith used it to repay their bank loans. But the flour which was made in return for the payment is still lying unsold, in the form of loaves on the baker's counter. Such at least seems to be the argument of the second passage quoted ; in the first, since the goods produced by the borrowers have already been sold, it is not clear that any goods are " immobilized ".

The answer to this contention is, of course, that Major Douglas has once more treated as " irrelevant " the essential fact that flour-milling and baking go on *simultaneously*. Whatever the miller's employees may have done with the wages they received last week, it is *this week's* wages out of which they will buy this week's output of bread. The repayment of the loan makes no difference to the situation, provided it does not interfere with the continuous production of flour. Major Douglas argues as though the repayment of the loan destroyed some of the purchasing power necessary for the sale of the bread. But, as we have seen already, the repayment of one loan is ordinarily balanced by the granting of a new loan. Unless a contraction of credit is in progress the banks will be anxious to find new borrowers for the sums being repaid to them, and if they succeed, pur-

chasing power destroyed by repayment will be immediately created again by new loans.

Major Douglas, in fact, seems to assume that the banks have forced the miller to close down his mill by a concerted refusal to lend him the money necessary to keep it going, although the shopkeepers have just repaid to them the amount required. Stated as it is in general terms and without qualification, his argument can only mean that the sole business of the banks is to secure the repayment of old loans and to refuse applications for new ones. Such a perpetual contraction of credit would no doubt be a matter for legitimate complaint. But it is strange that Major Douglas, if this is his meaning, should not show more satisfaction at what could only be interpreted as evidence of the banks' determination to destroy their own business.

II. In view of Major Douglas's apparent belief that the banks are always causing a shortage of purchasing power by requiring the repayment of their loans, it is somewhat surprising to discover that the granting of new loans is after all one of the ways in which he holds that the shortage of purchasing power is to some extent corrected. The full list of agencies through which "assistance is given to the defective purchasing power of the population (although that assistance is much less than is required to enable the production system to be fully drawn upon)" is as follows :

the redistribution of money through the social services such as the so-called dole ; the use of money received

from the sale of exports, from foreign investments, and from invisible exports such as shipping, redistributed through the medium of taxation, the distribution of bank loans (advanced on mortgage, debentures, etc.) in wages for excessive capital production, and the selling of goods below cost through the agency of bankruptcies, forced sales, and actual destruction.¹

In other passages bank loans are the only source of additional purchasing power which Major Douglas mentions ; evidently they are, in his opinion, the most important.

We may, however, interpolate some brief comments on certain of the other items on the list. It is not clear, in the first place, that the last item has any right to inclusion at all, for forced sales are a symptom of deficient purchasing power rather than a correction of it. If purchasing power were really as deficient as Major Douglas supposes, we should expect forced sales to be much more frequent than they actually are. The other factors in the list are offered to explain why this expectation is not fulfilled. That forced sales *do* occur can hardly be part of this explanation.

In the second place neither the dole nor any other form of Government expenditure can add to purchasing power if it is financed out of revenue raised in the ordinary way. A Government can only add to its citizens' purchasing power if it pays out to them more than it takes from them ; but this only occurs if the budget is unbalanced and part of the

¹ *Monopoly of Credit*, p. 39.

Government's expenses are met by newly created money raised by some form of inflation. Such a procedure is obviously not part of the normal course of events. Moreover, Major Douglas argues at length in the same book that the balancing of the budget intensifies the deficiency of purchasing power. If so, it is hard to see how expenditure on social services can help to correct it unless the budget is left unbalanced.

However, these are minor difficulties compared to those which face us when we inquire further into the bank loans which are paid out in wages for "excessive capital production". We read elsewhere that these loans are distributed by manufacturers "in wages and salaries against future production", and that the granting of the loans is a "crude effort" made by the financial system to "approximate the condition" in which the rate of flow of purchasing power "would be equal to the rate of generation of prices".¹ Major Douglas's position appears to be summed up in the following quotation :

The collective prices of goods available for sale at any moment . . . cannot be met by the money available through the channels of wages, salaries and dividends at one and the same moment. They can be exported in return for purchasing power or they can be destroyed, or they can be bought by purchasing power which is created and distributed in *respect of a separate cycle of production*.²

¹ *Monopoly of Credit*, p. 125.

² *Social Credit*, p. 94 (Major Douglas's italics).

These passages seem at once to confirm our previous answer to Major Douglas, and to show that he himself was all the time fully aware of its truth. For the "purchasing power which is created and distributed in respect of a separate cycle of production" or paid out "in wages and salaries against future production" must, it seems, be that which the miller is paying out this week in the production of flour which will appear as bread next week. The production of this flour is part of the "cycle of production" which will be completed next week; but the purchasing power paid out by the miller is available *now*. Major Douglas is thus, after all, in full agreement that as long as the banks are willing to lend money to the miller to enable him to produce flour this week, the fact that the wages earned last week in the production of the flour which is now bread are already spent makes no difference. It is his own previous argument, in fact, and not our objection to it, which is now "irrelevant". On the assumption that the banks are willing to lend as much as is being repaid to them, the deficiency of purchasing power is not merely corrected, but is prevented from arising at all. Major Douglas mentions no reason for regarding such an assumption as unreasonable.

How much of his own argument Major Douglas is thus prepared to retract is not quite clear. He does not tell us why he regards the efforts of the banks to remedy the deficiency of purchasing

power as "crude". He repeatedly asserts that the whole procedure of financing production out of bank loans "increasingly" mortgages industry to the banks, but he seems to attribute to the loans themselves effects which would only follow the failure to repay them. The impossibility of repayment is another of his unexplained assumptions.

Nor does the *Monopoly of Credit* offer any argument in support of the isolated hint, in the passage quoted, regarding "excessive capital production". But more light is thrown on this point by some of his other books. In one of them, after explaining his belief in the deficiency of purchasing power, he proceeds :

If . . . there were no other elements, the position would be one of absolute stagnation—it would be impossible to buy at any price at which it is possible to produce, and there would be no production. In spite of enormously modifying factors I may say that I believe that to be very much the case at present. But there is a profound modifying factor, the factor of credit. Basing their operations fundamentally on faith . . . the banks manufacture purchasing power by allowing overdrafts, and by other devices, to the entrepreneur class: in common phrase, the capitalist.

But the personal capitalist, he explains, is now largely replaced by the company, or Trust, as he calls it.

. . . What happens? After exhausting the possibilities of luxuries, the organization itself exercises the purchasing power and buys the goods which it

itself consumes—machinery, raw material, etc. In consequence the production which is stimulated . . . is that which is required by the industrial machine, intermediate goods or semi-manufactures, not that required by humanity. It is perfectly true that money is distributed in the process, but the ratio of this money to the price value of human necessities—ultimate production—is constantly decreasing, and the cost of living is therefore constantly rising.¹

In other words, “excessive capital production” causes a relative shortage of consumable goods and thereby raises their prices.

The same point of view is expressed in greater detail in Chapter III of *Credit Power and Democracy*. A manufacturer is supposed to obtain a loan from his bank, the banker creating new credit for the purpose.

More men are taken on, not only at his factory but at the factories of all the allied traders who supply him with intermediate products. . . . But . . . all these concerns are distributing purchasing power to individuals in the form of wages and salaries, ahead of production, which causes a rise in the prices of existing ultimate commodities, the only commodities that individuals buy. Secondly they are distributing this purchasing power obtained out of “credit” very largely (and this is increasingly true) in respect of capital production—i.e. things which in themselves are of no use to consumers: tools, factories, etc. The community as a whole therefore is producing and being paid for real capital as well as ultimate products, and much of this real capital is permanent and survives the life-

¹ *Control and Distribution of Production* (1922), pp. 67–9.

time of its producers. . . . Consequently, and this is the all-important point we wish to make, *although the unregulated system of credit-issue and price-making distributes purchasing power both in respect of capital production (tools, factories, intermediate products) and ultimate products (necessaries, services, amenities) it takes back in the prices of ultimate products only, practically the whole of this purchasing power*, leaving the community . . . in the position of having bought both the plant and the product, but having only got delivery—i.e. control—of the product.¹

III. These passages thus explain Major Douglas's belief that prices are too high. But at the same time they introduce us to a completely new phase of his argument, which is not merely difficult to reconcile with his theory of the deficiency of purchasing power, but may be fairly taken as a complete refutation of it. For the prices of consumable goods are too high, according to Major Douglas, because "excessive capital production" restricts the supply of consumable goods in relation to the purchasing power available to be spent on them. This is only another way of saying that the quantity of purchasing power is excessive in relation to the supply of goods. The fact that purchasing power is distributed in the production of intermediate goods and capital goods has now not merely ceased to be "irrelevant" but it has become the dominant fact in the situation. An excessive level of prices cannot possibly be a symptom of deficient purchasing power; on the

¹ Major Douglas's italics.

contrary, the efforts of the banks to remedy the deficiency, so far from being "crude", can now only be regarded as too successful.

But that does not mean that Major Douglas's new arguments in themselves are any more satisfactory than the arguments used in support of the A plus B theorem. Both sets of arguments, in fact, suffer from the same defect in an opposite sense—each of them leaves out one half of the truth. His previous argument assumed that every repayment of a bank loan occasioned a contraction in the total of purchasing power. His present argument implies that every new loan causes an increase in the total of purchasing power. His previous argument rested on the supposition that the banks refuse to lend even to enable the miller to make good the flour used up this week in the bakery. His present argument is to the effect that the only possible result of a more accommodating attitude on the part of the banks is an excessive capital production which will send up the prices of consumable goods and rob the community. Major Douglas seems to experience no difficulty in holding two opposite and contradictory opinions at the same time. It is as though a book purporting to discuss the problems of water-supply should warn us in Part I of the imminence of drought owing to the loss of water by evaporation, and in Part II of the simultaneous danger of flood owing to the return of this water by rain and snow.

The unsatisfactory character of his present

argument is apparent as soon as we follow up his statement that the goods produced with the aid of bank loans are the goods required by the industrial machine and not by humanity. This at once invites us to ask what will happen if, as he seems to desire, the industrial machine is prevented from obtaining them. His own description of the goods in question—machinery, raw materials, intermediate goods, semi-manufactures—make it clear that the purpose for which the industrial machine requires them is in order to maintain its output of final products. They are, in fact, the goods typified by flour in our illustration from the bread-baking industry. It is perfectly true that purchasing power distributed in the production of flour constitutes part of the demand for bread, though this is the very point which Major Douglas previously denied. What he now overlooks is the fact that the replenishment of the stock of flour—along with the replacement of other capital consumed—is *part of the cost of production* of bread.

Thus Major Douglas's distinction between the interests of industry and those of humanity, if this is its basis, is obviously a false one. To make any sense of his statements, we have to understand by "capital production" the production of capital goods *in excess* of what are required to make good the current consumption of materials and wear and tear of fixed capital. Such additional capital goods will serve to increase the output of industry

and not merely to maintain it. But if we interpret him in this sense much of what he has to say at once becomes irrelevant. The larger part of the output of capital goods is ordinarily required for the work of repair and replacement, and most bank loans serve to maintain the activity of industry rather than increase it.

But his argument still requires further drastic amendment. Even if purchasing power is being distributed in the production of additional capital goods—if the miller is grinding more than enough flour to replace that simultaneously used up by the baker, and if builders are putting up more buildings than are necessary to replace those which are becoming unusable, it by no means follows that the spending of this purchasing power on consumable goods will necessarily raise their prices. Major Douglas seems to have forgotten that many people—and many businesses—habitually save part of their incomes; in other words deliberately refrain from spending them on consumable goods. His contention that “practically the whole” of the purchasing power is taken back in the prices of consumable goods could only be true on the assumption that practically nothing is saved. In reality, it is only if the purchasing power distributed in the production of additional capital is in excess of the amounts simultaneously saved out of income that the prices of consumable goods on the average can rise above their costs of production. A condition of inflation will then be

present, as regards the prices of consumable goods. If what is saved is just equal to what is being spent in the production of additional capital goods, what is spent by the public in purchasing consumable goods must also be equal to what is being spent by industry in producing them. In that case no inflation will be present. There is also a third possibility—that of deflation, which will occur if the savings of the public exceed the costs being incurred in the production of additional capital, and the amount spent in the purchase of consumable goods consequently falls short of the costs incurred in their production.

Major Douglas completely ignores the second and third of these possibilities. His argument amounts to the claim that every bank loan must produce an inflation. This could hardly be regarded as a constructive criticism of banking policy, even if it were not so hopelessly at variance with Major Douglas's own opinions regarding the deficiency of purchasing power.

IV. The conclusion to which his analysis is made to lead is no more acceptable.

However much cash the community earns, the aggregate prices of mere consumption goods can be made to equal the aggregate earnings in respect of the production of both capital and consumption goods, either by keeping the articles in short supply or making monopoly arrangements to set prices at a "suitable" level; but in any case, prices of consumption goods plus prices of capital goods are in excess of available cash demands because of the credit factor in the prices; a relation which

results in the control of plant and improved process passing from the producers, as fast as produced, into the hands of the credit-mongers and price-makers rather than into the hands of the community to whom it belongs in the nature of things.¹

Read in conjunction with the other passages quoted, this seems to mean that, because more purchasing power is taken back in the prices of consumable goods than is expended in their production, insufficient purchasing power remains for the purchase of the capital goods produced. These capital goods therefore remain unsold, and pass into the hands of the "credit-mongers" to whom their producers are in debt. But Major Douglas cannot be allowed to have proved this conclusion, even if we accept the whole of his preceding argument. In the first place, the savings of the community now seem to have dropped from practically nothing to absolutely nothing. In the second place, the excessive price of consumable goods is now explained by a totally new cause; but the connection between monopolistic practices and the financing of production by bank loans—hitherto the subject under discussion—is not elucidated. Nor is it explained why we should be expected to assume that the producers of capital goods will fail to follow the example of the producers of consumable goods in restricting output and keeping prices high. They need look no further than this, it would seem, for an effective means of

¹ *Credit Power and Democracy*, p. 41.

keeping their products out of the hands of the "credit-mongers".

Finally Major Douglas seems to suppose that if the consumable goods are sold at a price which gives an abnormal profit, the capital goods must necessarily be sold at a corresponding loss. But this is not necessarily the case. It by no means follows that if the prices of consumable goods are subject to inflation the prices of capital goods will be subject to an equivalent deflation. Even, however, if we grant that the capital goods can only be sold at a loss, this does not mean that the economic system as a whole is working at a loss. Major Douglas gives no ground for assuming that the profits of the producers of consumable goods will not be equal in the aggregate to the losses of the producers of capital goods. He has no right therefore to say that "prices are in excess of available cash demands", if he means that the available purchasing power is not sufficient to buy the entire output at a remunerative price. This is the conclusion he has already failed to prove by arguing that sufficient purchasing power is not distributed. He can hardly expect to establish it by asserting that because so much is spent that prices are high, prices are therefore beyond the reach of those whose expenditure has raised them to their excessive level.

CHAPTER VI

SOCIAL CREDIT

I. It only remains to complete our discussion of Major Douglas's doctrines with a brief examination of his proposals. The objective of these proposals is the establishment of the system described as Social Credit. This involves the abolition of the existing "monopoly of credit" and the transfer of the control of credit into the hands of the community. But these aims are somewhat vaguely defined, and Major Douglas does not propose, as we might expect, to nationalize the banking system. It is not very clear what is to happen under his scheme to the existing banks, except that the creation of credit is no longer to be their exclusive privilege. Apparently they will continue to perform their present function of supplying industry with loans. But credit will be created in addition by the Government or by "Producers' Banks" set up under Government authority. This credit will not come into existence in order to be lent to industry, but in order to provide the money necessary to operate Major Douglas's scheme. In other words, the Government will pay for this scheme, not by raising taxes, but by creating new

money. This Social Credit, as it is presumably to be called, will be used for two purposes—first, in order to subsidize producers to sell consumable goods below their cost of production; and secondly, to pay to the population at large an annual “National Dividend”. The proposals are thus designed to remove the two defects which Major Douglas finds in the existing economic system—the excessive level of prices, and the deficiency of purchasing power.

II. The proposal to reduce prices therefore rests largely on the argument discussed in the preceding chapter, that, whereas purchasing power is distributed in the production both of consumable and of capital goods, it is entirely, or almost entirely, taken from the public in the prices of consumable goods, so that the community is unable to buy the increment of capital goods.

The community does not control credit [says Major Douglas at the conclusion of his argument on this point] and the policy of its present controllers is to prevent the community from getting control by taking back in prices the maximum purchasing power, a condition which is assisted by the restriction of the supplies of ultimate commodities by export or otherwise. The fundamental idea which it is necessary to grasp is that you cannot get existing and future credit power into the hands of the community, unless the distribution of purchasing power, both in respect of capital increases, as well as in respect of ultimate products, is only taken back from the community in the proportion that consumption bears, not only to these products, but to

capital production as well . . . prices of ultimate commodities would have to be fixed, not with regard to what they would fetch, but with regard to the above ratio, which would result in a price which would be a fraction of cost; the difference being made up to the entrepreneur by an issue based on the actual capital still remaining as a result of effort represented by total "cost".¹

A formula is accordingly given for the calculation of prices. Major Douglas's *Scheme for the Mining Industry* provides that the price of domestic coal

shall bear the same ratio to cost as the total National Consumption of all descriptions of commodities does to the total National Production of Credit—i.e.

Cost : Price :: Production : Consumption

Price per ton =

$$\text{Cost per ton} \times \frac{\text{Cost value of Total Consumption}}{\text{Money value of Total Production}}$$

(Total National Consumption includes Capital Depreciation and Exports.

Total National Production includes Capital Appreciation and Imports).²

We infer that the establishment of Social Credit on a national scale would involve the application of this formula to the prices of all consumable goods.

This scheme at first sight may appear to have little to do with the problem of controlling credit. But Major Douglas uses the word "credit" in a somewhat peculiar sense. He distinguishes between "financial credit" and what he terms "real

¹ *Credit Power and Democracy*, pp. 46-7.

² *Ibid.*, p. 150.

credit", and it appears that the latter is often intended when he speaks simply of "credit". Real credit is what is in Major Douglas's eyes the foundation of financial credit—the productive power of the community. Real credit is defined (by Mr. A. R. Orage in a commentary on the scheme for the mining industry) as "the correct estimate of ability to deliver goods as and when and where required". Financial credit is "the correct estimate of ability to deliver money as and when and where required".¹ Real credit is therefore increased by capital investment or "appreciation" in Major Douglas's language. The community will control credit in Major Douglas's sense, we infer, when it is enabled to purchase the new capital goods which under existing arrangements tend to pass into the hands of the "credit-mongers".

It is conceivable [says Mr. Orage] that a balance might be struck at the end of our financial year, showing the nation's net gain of Real Credit, and that every citizen should be credited with his *share* of the increment of credit revealed . . . the proposal of the Scheme is much simpler in practice, though the theory is similar. Instead of waiting until the end of each year, and then apportioning the increment of Real Credit to every individual, the present clause proposes to distribute the Credit at the same time as the goods in question are bought, by charging to the consumer as Price only that fraction of cost which Total Consumption is of Total Production.²

¹ *Credit Power and Democracy*, pp. 156, 158.

² *Ibid.*, pp. 200–1.

This is not very enlightening. But at any rate, since we have already rejected Major Douglas's theory of excessive prices, we have already by implication rejected his formula for reducing prices. The formula, however, presents a number of additional difficulties of its own. There is nothing in Major Douglas's argument to tell us why consumable goods need to be sold *below cost*. The only conclusion we are justified in drawing from that argument, even if we accept it, is that the price of consumable goods should not take back more purchasing power than is expended in their production. This will ensure that the public is able to buy the new capital goods, for after buying all the consumable goods, the public will still possess purchasing power equivalent to what was distributed in the production of the capital goods. But this condition is fulfilled if the consumable goods are sold at a price which on the average *does not exceed* costs. As we have seen, Major Douglas has not succeeded in showing that this result is either impossible or improbable in the ordinary course of events. As long as savings are equal to the sums expended in the production of new capital goods, they will be sufficient if utilized for investment to purchase the capital goods without loss to the producers.

These difficulties, however, are evidently to be explained by the peculiar sense in which Major Douglas appears in this part of his argument to understand "costs of production". He tells us

that if "all capital production costs" were "allocated against ultimate products, prices of ultimate products would absorb at least" [*sic*] "the total earnings of the whole population"; if on the other hand "only maintenance, depreciation, and obsolescence of intermediate products" were "charged against ultimate products", "*prices would be less than costs in the ratio that capital would bear to consumption*".¹ On the contrary, prices of consumable goods would then be *equal* to their costs of production. The cost of *additional* capital, after replacements have been made, is no part of the cost of production. Cost signifies the charges which must be met in order to induce producers to continue production, not to expand it. It must cover the cost of maintaining capital, but not that of adding to it. Major Douglas's argument appears to be based on a complete misapprehension.

The formula, however, besides being designed to enable the community to purchase the current output of new capital goods is also an attempt to translate into practice the idea that the "real" cost of production is consumption.

¹ *Credit Power and Democracy*, p. 56 (Major Douglas's italics). This erroneous interpretation of "cost" is explicitly adopted by Mr. Allen Young, a disciple of Major Douglas, in correspondence with the late F. P. Ramsey, who devised a mathematical proof that the ratio which selling price must bear to cost price, if purchasing power is to be capable of buying all that is produced, is unity. *Cambridge Magazine*, Vol. XI, Nos. 1 and 2.

The real or physical (as opposed to financial) cost of production [says one of Major Douglas's disciples] is consumption. The actual physical cost of making anything is the material consumed in the making . . . the real cost of the goods made in any period, whether intermediate or ultimate, is the totality of goods consumed in the process. National Depreciation, which includes all consumption of goods, all export, all scrapping of obsolete machinery, is the physical price paid for National Appreciation, which includes all goods made, all imported goods, all new machinery erected. . . . Now it is manifest that in any modern industrial community appreciation far exceeds depreciation. . . . The real cost of National Production is National Consumption—something much smaller. If the money system were a scientifically accurate reflection of actual realities, the aggregate prices of the goods produced during any period would amount to the financial cost of goods consumed in that period. But this would mean selling below the financial cost of the goods produced, which is just what Major Douglas suggests.¹

This may sound vaguely plausible, though it is difficult to see why it would not be equally appropriate to argue that "the real cost of consumption is production"—there is a sense in which this is obviously true. But the plausibility disappears on closer examination. Even if we grant that the "physical" cost of a thing consists of the material consumed in the process, it is obvious that this "physical" cost is not the total cost, and it is not explained why we are to regard it as the "real" cost. In any sense in which it

¹ C. M. Hattersley, *This Age of Plenty*, p. 212 *et seq.*

is worth while to use the term, cost must include the elements of cost due to the services of individuals and of property ; in the last analysis, since production can only result from these services, cost can include no other elements. The statement therefore that the real cost of production is consumption, if consumption means the materials consumed, is at best an unilluminating half-truth. If, however, consumption bears its more ordinary meaning and signifies the consumable final products used in the daily life of the community, the statement is a manifest absurdity. For it then means that the cost of the total output produced depends, not on the size of the total, but on the size of that part of it which takes the form of consumable goods. It may be true that if a tailor succeeds in making a coat out of a smaller quantity of cloth, he has lowered the cost of the coat (provided its quality has not also been reduced), but no argument can make it true that a community which devotes an increasing proportion of its resources to the production of additional capital goods and a decreasing proportion to the production of consumable goods is in that act lowering the aggregate cost of the total output produced.

III. Thus any lingering suspicion that Major Douglas's formula may represent a scientifically conceived attempt to "equate consumption with production" must be laid aside. It remains to ask what its practical results would be. The formula purports to supply a fraction by which

the costs of production of consumable goods are to be multiplied in order to arrive at the prices to be charged for them. The numerator of the fraction is the "Cost-value of Total Consumption", which is presumably to be taken as the total cost of the current output of consumable goods. The denominator is the "Money-value of Total Production". But no method of calculating "money-value" except on the basis of cost is indicated; and the alternative, which is to value "Total Production" on the basis of prices realized, is inadmissible, since the prices realized will be affected by the formula itself.

Let us suppose then that the total output of consumable goods in a given period is worth £4 million, valued at cost; and that the total output of additional capital goods is worth £1 million at cost. Major Douglas's ratio is four-fifths and the consumable goods are to be sold at four-fifths of their cost. In the aggregate this means a price of £3 $\frac{1}{5}$ million. But the total income of the public is £5 million, and they will therefore still have £1 $\frac{4}{5}$ million in their possession after buying all the consumable goods. There are three things that may happen to the remaining purchasing power. The whole of it may be saved and invested in the purchase of new capital goods—in which case the producers of these goods will receive a profit of 80 per cent. on costs; or some part of it may be saved unspent; or some part of it may be spent on consumable goods in addition to the £3 $\frac{1}{5}$ million

already so spent. Since the public is not likely to wish to save, either by investing or by "hoarding", the whole of the additional purchasing power remaining as the result of the reduction in prices, the last of these two alternatives is the most probable. But in that case the scheme breaks down, for the prices of consumable goods must then be greater than the four-fifths of their costs. And at the same time the profits of the producers of consumable goods, which will already, of course, have been protected against the fall in prices by the issue of "social credit", will be correspondingly increased.

Thus, whether the additional purchasing power is invested in capital goods or spent on consumable goods, it cannot fail to raise prices and increase profits; in fact, to produce an inflation. Only if it remains wholly unspent will it have no inflationary effect; but in that case it would have been simpler not to bring it into existence at all. Major Douglas's scheme, however, if designed as a remedy for trade depression, need not necessarily be condemned merely on account of its inflationary character. If trade depression is a condition of deflation, recovery is impossible without a measure of inflation, and there are many who hold that recovery will come more quickly if inflation is deliberately contrived rather than allowed to occur more or less spontaneously. But such inflation must of course be moderate, and it is essentially to be regarded as an emergency expedient rather than as a permanent feature of policy. That

severe inflation is a disaster, everyone, including Major Douglas himself, admits.

Nevertheless, Major Douglas not only intends his scheme, apparently, as a permanent feature of a new monetary system ; he denies altogether the charge that it would result in inflation. The reduction in prices, he thinks, would be permanent. But it is quite clear that this is impossible for the same reasons as those which compelled us to reject his A plus B theorem. We cannot expect to reduce prices merely by giving people the means of paying much higher prices. The continuous creation of additional purchasing power, unless it can be demonstrated that without it there would be an equivalent deficiency, must make the total of purchasing power excessive. Unless industry itself fails to distribute sufficient purchasing power to enable its products to be bought, the continuous addition of "social credit" to the stream of purchasing power flowing into the hands of purchasers must give them more than sufficient to buy the product of industry, and make a rise in its price inevitable if the public are allowed to spend all that they wish to spend.

Major Douglas's answers to these objections are far from satisfactory. He claims that to subsidize the sale of goods below costs is merely to make general a practice which occurs under existing conditions whenever a forced sale takes place. Forced sales "represent a subsidy in aid of prices from private sources", and "so far from

this subsidy raising prices, it only comes into operation by the lowering of prices".¹ But it is not the subsidy itself which, in his scheme, will raise prices, but the payment of the subsidy out of "social credit" created for the purpose. Forced sales merely transfer purchasing power, in effect, from the seller to the buyer. The seller loses what the buyer gains. But Major Douglas proposes to reimburse the seller with newly created money, not raised by taxation or derived in any other way from the existing quantity of purchasing power. Under his scheme the buyer is to gain and nobody is to lose.

Major Douglas gives his case away when he attempts to criticize an alternative scheme which he himself believes to contain the danger of inflation. The alternative is Mr. Kitson's "producer-credit" scheme, as Major Douglas calls it, which is summarized as "providing for the discounting of bills, on demand and as of right, by banks in favour of manufacturers". Though this scheme would be an "immense advance on present financial methods", it would leave the manufacturer "in control of prices" and make him "the absolute lord of the earth, since he would have the whole credit-system in his hands". The receipt of an order would give him the right to demand a loan from his bank to meet the expense of producing the goods to fill the order. Wages and salaries would be paid out of the loan, and "this new pur-

¹ *Monopoly of Credit*, p. 39.

chasing power would be effective in the market *before the goods*, even if these were for ultimate consumption . . . we should enter into the manufacturer's paradise and the consumer's purgatory—an era of constantly soaring prices and continuous depreciation of currency". Major Douglas prophesies that the scheme could not fail to end in disaster within three years.¹

This criticism has obvious points of resemblance to Major Douglas's argument concerning the normal effects of bank lending: and there is no need to repeat our observations on that argument. The prediction of inflation, however, is not unpalausible in circumstances where an *increase* of production is being financed by an increase of bank lending. But Major Douglas does not show us why the inflation should continue beyond the time when the additional goods are ready for sale: he seems to have overlooked the fact that as soon as that time arrives the additional purchasing power will be balanced by an additional supply of goods. However, we are not concerned with the validity of his criticism but with the reasons why his own scheme, in his opinion, is immune from it. The characteristic feature of his own scheme, he tells us, is that it would issue the credit "with the goods instead of in advance of unspecified production".² But this answer obviously misses the point. His credit is not the credit out of which the expenses

¹ *Credit Power and Democracy*, p. 137 *et seq.*

² *Ibid.*, p. 143.

of production are met, but that which compensates the producer for selling at a reduced price. How will his scheme make it possible to produce goods without first distributing purchasing power in wages and salaries? If we assume, as in the absence of specific denial we must assume, that producers will still be entitled to borrow to meet these expenses, Major Douglas's credit will be a further addition to a quantity of purchasing power already excessive, on his own argument, in relation to the supply of goods. The inflation which will follow will be even more violent than that which will follow from Mr. Kitson's scheme.

Thus the comparison turns out in reality to be altogether in favour of Mr. Kitson's "producer-credits" and against Major Douglas's "consumer-credits". Major Douglas, in fact, seems to entertain a wholly false idea of the nature of inflation. He defines it as "a policy of increasing issues of money in such a way that it can only reach the public through the medium of costs and must therefore be reflected in prices".¹ But the only reason for expecting inflation to result from his plan is the fact that his "social credit" will *not* reach the public "through the medium of costs" and will *not* be distributed by industry in the course of production. Any scheme which, like his, proposes to *increase* the purchasing power of consumers, and not merely to transfer purchasing power by taxation from one section of the community to

¹ *Social Credit*, p. 103.

another, must face the danger that it will enable the public to spend in the purchase of goods more than industry has spent in their production. Inflation does not result, as Major Douglas appears to think, from an increase in the aggregate of costs, but from an increase in money demand without a corresponding increase in supply. And Major Douglas is certainly in error if he supposes that the great inflations of the past have resulted from "increasing issues of money through the medium of costs". They have usually resulted from the financial embarrassments of Governments. Budgets being unbalanced, expenses have been met not from revenue but from additional money created for the occasion. This money finds its way into circulation through the hands of Government employees and creditors—civil servants, soldiers, sailors, army contractors and so forth—and not "through the medium of costs". Its points of resemblance to Major Douglas's "consumer-credits" are much more obvious than its points of difference.

It may be added that Governments have often attempted during periods of inflation to control the movement of prices by legal restrictions; we need go no further back than the war for an instance. But to hold prices down by such means is to prevent the public from spending all that they wish to spend on the controlled commodities. Unless prices are allowed to rise, the public, owing to the increase of purchasing power, will want to

buy more than they can get. There is an excess demand which has to go unsatisfied. In the absence of control, prices will rise until this excess demand is eliminated. If prices are prevented from rising demand has to be restricted in some other way ; hence a price-control scheme is commonly accompanied by a system of rationing. The public, being unable to spend all that they wish on the controlled commodities, must either spend more on such commodities as may be uncontrolled, in which case the rise in the prices of these commodities is intensified, or refrain from spending altogether. Thus the price-control scheme can only succeed in its objective by preventing the additional purchasing power to which the upward tendency of prices is due from being used as purchasing power. The public is given money to spend, only to find that there is nothing for it to be spent on.

IV. Major Douglas's other characteristic proposal is for the payment of a National Dividend. This proposal is to be found, along with a somewhat modified version of the proposal to reduce prices by means of a subsidy, in his " Draft Scheme for Scotland ", printed as an appendix to *Social Credit* (1933 edition). The Dividend, like the subsidy, is to be paid by the Government out of money created for the purpose. It is to be payable to every man, woman and child in Scotland, provided they are of Scottish birth or have resided in Scotland for an approved length of time, and

provided that no one shall receive a share whose total income from other sources is more than four times the amount of the individual share. The total amount of the dividend is to be fixed at a certain arbitrary percentage—1 per cent., for example—of the total capital assets of Scotland. These assets, which are to be specially valued for the purpose, are to include not only all property, public and private, but also the “capitalized value of the population”—a figure to be calculated, apparently, on the basis of expectation of life and anticipated earning power. The dividend, we are told, “might be expected to exceed” £300 per family per annum. At the same time, wage-rates in all “organized industries” are to be reduced by 25 per cent.

These proposals give expression to Major Douglas’s belief that the dividend is “the logical successor to the wage”.

Wages and salaries in relation to dividends [he says] ought to become increasingly unimportant. Production is far more dependent on real capital than it is upon labour, although without labour there is no production. More and more the position of labour, using, of course, this word in its widest possible sense, tends to becoming the catalyst in an operation impossible without its presence, but carried on with a decreasing direct contribution from labour itself. . . . It ought not to be difficult to see that a situation which may truly be described as revolutionary is disclosed. In place of the relation of the individual to the nation being that of a taxpayer, it is easily seen to be that of a shareholder.

Instead of paying for the doubtful privilege of being entitled to a particular brand of passport, its possession entitles him to draw a dividend, certain and probably increasing, from the past and present efforts of the community of which he is a member.¹

Nevertheless, it is obvious that the objections to the price-reduction scheme apply with even greater force to the dividend proposal. Under a system of private enterprise there is no analogy at all between the State and a joint-stock company, for the State is not responsible for the production of goods and services and does not receive the proceeds of their sale. If Major Douglas wishes the State to dispense purchasing power he must either derive this purchasing power by taxation from that distributed as costs in the course of production, or recognize that, since the expenditure of the public will progressively exceed the costs of what they buy, the gain to the public will be nullified by rising prices, and the chief beneficiary of his proposals will be the manufacturer. As in any inflation, profits will be increased at the expense of all other elements in the social income. And Major Douglas himself gives us enough information concerning the working of the scheme to make it certain that the inflationary tendencies of the price-reduction proposal would be slight in comparison with those of the dividend.

The dividend, he says, would amount to at least £300 per family per annum. If there are between

¹ *Monopoly of Credit*, pp. 80-1.

three and four persons in the average family, then the individual share will be between £60 and £75—say £68 10s. But those earning more than four times this share will not receive the dividend. All those whose incomes are above £274 must therefore be counted out. If the limit were at the somewhat lower figure of £250, those excluded would form about 10 per cent. of all income receivers, about 5 per cent. of the population as a whole.¹ It is safe to conclude therefore that the dividend would be payable to at least 95 per cent. of the population. But perhaps the dependent relatives of the rich ought to be excluded—though Major Douglas does not tell us so. If there are four dependents to every income-receiver whose income is above the limit, the number of recipients of the dividend is reduced to 75 per cent. of the whole population, or in Scotland, rather more than $3\frac{1}{2}$ million people. If $3\frac{1}{2}$ million people are paid £68 10s. annually, the total sum involved is about £240 million per year.

In the first year, however, this figure would have to be further modified in order to allow for a 25 per cent. reduction in wages. Wages are about 40 per cent. of the total national income; the reduction proposed by Major Douglas would therefore reduce the total national income by 10 per cent. For the United Kingdom as a whole, the national income has been estimated as £3,740

¹ C. G. Clark, *The National Income*, p. 76.

million¹ for 1933. The national income of Scotland, which contains about a tenth of the population of the United Kingdom, may be taken as not larger than £374 million. Ten per cent. of this, £37 million, would obviously make little difference to the figure at which we have arrived. An increase of purchasing power of £200 million in the first year, and £240 million in subsequent years, is a conservative estimate of the effect of Major Douglas's dividend proposal. To obtain a rough idea of what the proposal would mean if it were applied to the Kingdom as a whole and not merely to Scotland, we may multiply these figures by ten.

Past experience provides us with enough evidence to place the effects of such an increase of purchasing power quite beyond doubt. The war-time inflation in this country is the most obvious precedent to which we may appeal. From June 30, 1914, to December 31, 1919, the purchasing power of the country was increased by £1,688 million.² This is equivalent to an average annual increase of £307 million; Major Douglas's dividend, if applied to the whole country, would increase purchasing power by more than six times this amount annually. Yet wholesale prices had been raised, by December 1919, to over 270 per cent. of their 1914 level.

During 1933 the average total of notes and coins

¹ C. G. Clark in the *Economic Journal*, Sept. 1934.

² *British Finance*, 1914-21, edited by A. W. Kirkaldy.

in circulation in the whole country was £360 million, and the average total of current accounts at the clearing banks was £978 million.¹ The first annual payment of Major Douglas's dividend would be equivalent to about one and a half times this existing quantity of active purchasing power. Even if we include the existing deposit accounts at the banks, though they are obviously not active purchasing power, the total is only increased by £930 million to £2,268 million, a figure which the dividend would comfortably exceed in every year after the first. Thus Major Douglas would begin by at least doubling the quantity of active purchasing power in one year, even though a substantial part of the dividend were to remain unspent. An increase of purchasing power at anything approaching this rate is outside the experience of any country save those which suffered the most disastrous inflations of the post-war period.

There is only one reason why inflations in the past have caused prices to rise. They have caused demand to outrun supply. The increase of purchasing power has given the public the means of buying more goods, at the initial level of prices, than sellers have been able to procure. Granted that the increased demand at first stimulates industry to increase its output—this is of course the case for a limited dose of inflation as a remedy for depression—the increased activity of industry

¹ Bank of England, Statistical Summary.

itself further increases the total of purchasing power, so that the rise of prices is not arrested by increased supplies of goods, as long as the Government continues its creation of new money ; and the output of industry sooner or later reaches its maximum, after which it needs no demonstration that a further increase in demand can only lead to a further rise in prices.

There are only three possible arguments which might be held to justify the conclusion that past experience would not be repeated under Major Douglas's scheme. We may believe, in the first place, that the productive capacity of industry is now so enormous, and depression so acute, that the output of goods and services could be expanded rapidly enough to keep pace even with the tremendous increase of purchasing power which Major Douglas's scheme involves. This argument is first of all untrue. It is certain that output has not been reduced to 50 per cent. of capacity, in this country at any rate ; and it is even more certain that if production were increased by 100 per cent. in the first year of the scheme, it could not be increased by anything approaching the same amount in subsequent years. Secondly, the argument would not prove the point even if it were true. Additions to output due to the re-employment of idle labour and capital *themselves* provide additional purchasing power equivalent to the costs of the additional goods ; additions to output which do not involve the increased employment

of men or material do not involve increased aggregate costs, but result from a reduction of costs per article, and therefore not only provide no case for an increase of purchasing power but mean that if prices are not allowed to fall also the manufacturers will be exploiting the public.

We may, in the second place, deny the contention of the last paragraph that industry itself provides the purchasing power necessary to purchase its own output. Our discussion of the A plus B theorem has shown this view to be impossible, even if the occurrence of inflation in the past does not itself disprove it. Or finally we may believe that the rise in prices will be averted by the scheme for selling goods below cost. We have already stated the reasons why this also is impossible, without taking the money paid out as dividend into consideration at all. Thus our conclusion need not be subject to any doubt or qualification whatever. Social Credit is simply another name for continuous and progressive inflation. As the foundation for a reformed monetary system it is a fantastic absurdity.

CHAPTER VII

TECHNOCRACY

THE author of *Social Credit* is by profession an engineer ; nevertheless there does not appear to be any particular reason to regard the Social Credit Doctrine as typical of the engineer's approach to economic questions. At all events the American movement known as Technocracy has a much stronger claim to be regarded as characteristically an engineers' movement—though most engineers, no doubt, would repudiate both Social Credit and Technocracy. Like Social Credit, Technocracy attributes economic crises to a failure to understand the characteristics of modern machine industry. More specifically, as its name implies, Technocracy stands for the view that the control of the economic system should be in the hands which control the making of products ; that the same scientific intelligence which has so successfully solved the problems of production should be applied to the solution of the problems of distribution which, according to the technocratic view, its very triumph in the sphere of production has created. A new approach to the study of these problems was accordingly proposed, an

approach based on the quantitative methods of the physical sciences. "The oncoming march of physical science", we read, "has driven the astrologer out of astronomy, the geographer out of meteorology and seismology, the barber out of blood-letting and Providence out of the field of bacteriology"; it has ended with the "total exclusion and complete intolerance of the obsolete methods of philosophic speculation in these fields."¹ The time has come, we infer, for the economist to be driven out of economics. "Economic theory, as it has come down to us from 'yesterday's seven thousand static years', can neither be reconciled with, nor recast by, these methods of the physical sciences now functionally dominant in our modern industrial mechanisms: it must be discarded."

In its place, proceeding by methods which are described as "the result of a synthetic integration of the physical sciences that pertain to the determination of all functional sequences of social phenomena", Technocracy claims to establish "a new technique of social mensuration, that is to say, a process for determining the rates of growth of all energy-consuming devices within the limits of the next most probable energy state". America, standing on the threshold of a new era, must leave behind

all the wish-fulfilling thought and romantic concepts of

¹ These and the following quotations are from *An Introduction to Technocracy*, by Howard Scott and others.

value that are the concomitants of a price-system. So, too, all philosophic approaches to social phenomena, from Plato to—and including—Marx, must functionally be avoided. Economics, that pathology of debt, not containing within itself any modulus or calculus of design or operation, must likewise be discarded with the other historical antiquities. No political method of arriving at social decisions is adequate in continental areas under technological control, for the scientific technique of decision arrivation has no political antecedents.

Technocracy, we learn, will substitute physical concepts for the economic concepts of value, price and debt.

National income under the price system consists of the debt claims accruing annually from the certificates of debt already extant. Physical income within a continental area under technological control would be the net available energy in ergs, converted into use-forms and services over and above the operation and maintenance of physical equipment and structures of the area. Individual income under a price system consists of units that are not commensurate with the quanta by which the rate of flow of the physical equipment is measured, and upon which the social mechanism depends for its continuance. . . . Individual income under technological control would consist of units commensurate with the quanta by which the rate of flow of the physical equipment is measured throughout the entire continental area. The unit income of the individual would be determined by the period necessary in that area to maintain a thermodynamically balanced load, that is to say, the time it takes for a complete cycle of the operating and production procedures to be completed. Any unit of *value* under a price system is a

certificate of debt. Any unit of *measurement* under technological control would be a certification of available energy converted. Such units of certification would have validity only during the balanced load period for which they were issued.

Such grandiose pronouncements, given to the American public in the crisis year of 1932 as the findings of a body of distinguished engineers and scientists under a leader of fabulous erudition, credited with the discovery of a "Theory of Energy Derterminants" which placed him, it was said, among the intellectual giants of all time, naturally won for Technocracy a generous allowance of headline space in the American press. Unfortunately the standard was too high to be maintained. Technocracy was obliged to confess that it proposed no solution: "it merely poses the problem raised by the technological introduction of energy factors in a modern industrial social mechanism". Worse than this, it appeared before long that Technocracy had no answer to the objections which were being raised against certain of its facts and figures. It remained for an inquisitive newspaper-man to deliver the final blow by the discovery that its leader, Howard Scott, was no man of science at all, but a picturesque impostor.¹ The brief sensation ended in fiasco with the announcement that the disciples had deserted their discredited leader and would henceforth withdraw from the gaze of publicity and

¹ See *What is Technocracy?* by Allen Raymond, 1933.

devote themselves to patient scientific inquiry under the auspices of Columbia University.

Thus Technocracy passed out of the news, and there would be no occasion for mentioning it here were it not for the work of Mr. Basset Jones. Mr. Jones, a leading "secessionist" technocrat, has written two books on Economics, *Debt and Production* (said to have been described by Mr. Stuart Chase as "a greater contribution than any single individual has made to economics for a long time") and *Horses and Apples*, a study of index numbers, both of which may be regarded as instructive examples of the attempt to carry out the technocratic aim of applying engineering concepts to economics.

Debt and Production has for its sub-title "The Operating Characteristics of our Industrial Economy". Mr. Jones states that he approaches his problem in the same way as an engineer approaches the study of

a line of machinery . . . Before he can use a machine for the best results in meeting the demand that will be made upon it, the engineer must know its operating characteristics under a complete range of load and duty, so that, with reasonable accuracy, he can foretell how it will behave when in use.

Mr. Jones accordingly undertakes an examination of the statistics of production and employment for the U.S.A.

He concludes that "the number of workers, output per worker, and total production, all tend

towards maxima, due to be reached, had the plant continued to operate as per schedule, at or earlier than 1950". Production will attain its maximum, he thinks, after passing through a period of maximum growth.

During the decade 1910 to 1915 nearly every form of production in the United States attained its maximum growth, which has since (up to 1929) been decreasing. In other words since about 1910 nearly every form of production has been increasing at a progressively slower rate of growth.

As for employment, on the other hand, the statistics show a change in the trend at or about 1921, at which point

the number of workers had begun to fluctuate about a relatively fixed quantity. . . . At the same time output per worker suddenly changed so as to approach a higher maximum, and began to increase at nearly the same rate that production was increasing. But furthermore . . . the man-hours per unit of production was declining after 1921 at nearly the exact inverse to the rate at which production was increasing. Therefore after 1921 the average total man-hours in all the industries reported must have remained nearly constant. . . .

It has been shown that the shift of workers from the production industries to other occupations has been very marked during recent years. . . . It is the great gap between the plant door and the consumer that has correspondingly widened. . . . In many industries more man-hours are involved in distribution and sales than in production.

Furthermore, he concludes from the statistics of

production that "since 1900 the production of goods intended for use in the production plant itself, called 'producers' goods', expanded at a considerably higher rate than the production of consumers' goods. This means that the plant absorbed goods faster than the consumer." Since therefore

the plant itself is fast becoming the prime consumer [he argues] with an expanding proportion of the population outside the plant, yet in the last analysis dependent on the plant for their ability to purchase the goods produced, we approach a situation that is so hopelessly unreasonable and illogical that . . . no adequate solution in terms of a money purchasing power seems possible. . . . Thus it seems that this ever-increasing number of people outside the plant, yet dependent on it, becomes very similar to a growing mortgage on the plant and on the total goods it produces.

His study of the production statistics also suggests to him that the system

probably has a definite maximum load capacity beyond which it cannot be operated in its present form. If this suggestion seems reasonable, then it may follow that the several operating characteristics which indicate the existence of such a maximum load point also indicate that at or about 1929 that point was so nearly reached that under the existing method of control the system stalled.¹

Now Mr. Jones informs us in his preface that all his conclusions and theories are the result of cal-

¹ *Debt and Production*, pp. 48, 34, 48-50, 36, 126-7.

culations based on authoritative statistics, and that the only criticisms in which he will be interested must be based on similar calculations. Nevertheless, whether Mr. Jones is interested in it or not, the most obvious and most formidable criticism which suggests itself is that his conclusions are not in fact based on his statistics at all. The idea that "no adequate solution in terms of a money purchasing power is possible" does not follow from any of the statistical results. It rests on Mr. Jones's apparent belief that no workers except those "in the plant" itself receive any purchasing power. Unless we are to argue that workers in transport and the distributive trades receive no purchasing power, it is impossible to hold that the proportion of the total number of workers who are "outside the plant" has anything at all to do with industry's ability to sell its products. It is equally impossible to accept the curious argument that the "plant itself is becoming the prime consumer". Mr. Jones does not tell us whether by "producers' goods" he means new capital goods or replacement goods, or both together. Presumably the tendency which causes his alarm is to be explained in part by the growing output of replacement goods consequent upon increasing capital equipment. In any case Mr. Jones does not show why the relative shortage of consumers' goods which he appears to anticipate would not itself stimulate the production of consumers' goods in place of producers' goods. In

short, in spite of the apparatus of learning with which his pages are liberally adorned, Mr. Jones does not hesitate to beg the most important questions when he comes to state his conclusions. Professing to dispense with anything in the nature of an economic theory, he is nevertheless obliged to assume some sort of a theory in order to interpret his statistics. Statistics by themselves tell us nothing. Whatever an engineer may do when he studies the performance of a machine, it is obvious that he must possess some theoretical knowledge of mechanics if he is to reach any useful result. Yet the twenty years' study which Mr. Jones tells us he has given to Economics has left him in ignorance of some of the most elementary principles of the subject.

This is fully evident in the next section of his inquiry, which is concerned with the "price-system". Mr. Jones quotes certain definitions of "price" by economists and endeavours to show that they are meaningless. But since he proceeds on the assumption that when economists speak of "price" or "value" they mean "the quantitative ratio of demand to supply, measured in terms of a common unit of demand and supply", his own discussion is extraordinarily confused. His criticism of the "law of supply and demand" is not a criticism of anything which economists would recognize under that name, but of a belief which Mr. Jones erroneously attributes to them. If Mr. Jones's study of Economics had included a perusal

of, for example, the classic chapter on Value in John Stuart Mill's *Principles of Political Economy*, he would realize that the conception of a ratio between supply and demand is nonsensical. No economist uses the words "price" or "value" to mean any such thing.

Mr. Jones proceeds to a discussion of modern monetary systems. "The long and the short of the matter", he says, "seems to be that we now do most of our business through a medium of exchange consisting almost entirely of certificates of indebtedness." Since gold is only available in limited quantities,

we devised another altogether different method of exchange. By gambling on the future continued success of the project we went into debt—issued promises or contracts to pay in the future—and called this "credit" because we actually gave credit to these promises. . . . If when the time came to pay, we could not do so, we stalled off payment by issuing more promises to pay at a yet later date and even added some new promises so as to obtain more "credit". . . . It all smacks somewhat of a poker game, in which, being in deep, we keep on getting in deeper, imbued with a hope that the "luck" will change. Well, when you come right down to it, is not that just about what it is? . . . As it now stands, the kitty in this game as being played in the United States alone consists of promises to pay marked with a total of somewhere near 200 billions of dollars, and the so-called fixed charges on this amount, or what the economist politely calls "debt-service" amounts probably to about 25 billions annually. . . . Price and money both [Mr. Jones concludes] as now organized and operated have no rational relation to the

underlying process of the production, distribution and consumption of physical goods and services.¹

He then turns, in the final part of his inquiry, to consider the relation between debt and production. The

long-time fluctuations in prices and in production [he thinks] . . . seem to occur as smooth oscillations of rather constant frequency . . . They are like a long ground swell on the sea overlaid with all the confused and irregular direct wind waves, which, if what the sailor calls the "stretch", or the distance from the shore in the direction of the wind, is long enough, themselves become merged in the larger waves called the swell. This is a common phenomenon in nature. . . . Now every such dynamic system with relation to its boundary has what the scientist calls a "natural" frequency . . . by natural frequency he means that once the waves, ground swell, or surges attain a wave-length, or distance from crest to crest, that is an even fraction of the "stretch" or distance between the boundaries, the waves may become of very great amplitude and possibly break down the boundaries and so wreck the system. . . . All this apparently has a relation to our production economy and its control by price, in that what we may designate the boundaries have been changing, so that in effect the oscillations of constant frequency or of wave-length within it have been approaching the natural frequency, or natural wave-length, of the system. The boundaries may be defined in terms of relation between *debt* and *production*. Writing for the reader informed on electrical matters, I may say that apparently the relation between debt and production has much the same character as the relation

¹ Op. cit., pp. 58-9, 74.

between capacitance [*sic*] and inductance in an electric circuit.

However, these scientific analogies are put aside as requiring too elaborate an analysis, and Mr. Jones proceeds with a more intelligible argument which, he says, leads to the same conclusion. This argument is to the effect that whereas production since 1910-15 has been increasing at a decelerating rate, total debt has been increasing according to the law of compound interest, or by a constant percentage annually.

Where [he asks] do these accruals and the fixed charge required to support the mass of debt come from? Obviously, unless they be imaginary and made out of whole cloth, there is only one ultimate source—the production plant. Further, unless the debt structure is just such a kitty in a poker game as has been pictured, then such fixed charges, at least, must come out of the gains obtained by the sale of the goods produced. . . . Assuming this to be so, then let us also assume for the moment that the gain per unit of production is fixed. Then if a growing amount of accruals or fixed charges, or both, are to be paid, production must grow as the debt grows. But . . . production does not, and physically cannot, grow according to any such law. . . . Consequently, unless the gain per unit can be correspondingly increased, the fixed charges or accruals, one, or both, cannot be paid in full. . . . If the growth of production ceases, or becomes zero, as production reaches a maximum . . . the possible payments become zero. . . .

It follows that if the fixed charges actually are paid out of production, then after 1911, when growth of production apparently reached a maximum, the debt

structure was in jeopardy. Sooner or later, a point in time would be reached when payments must be made out of capital reserves or equities. Apparently this time came in or about 1921. Thereafter, once the capital reserves and equities were used up, payment must be reduced in proportion to the decline in production growth, or cease altogether. . . . The debt began to crumble with the reduction or cessation of the payments due it. The cash capital and equities underlying the debt having gone . . . we were left with nothing but debt for our pains, a debt of rapidly shrinking measure in terms of dollars. This is suggested as an explanation of what has happened since 1929.¹

In other words Mr. Jones believes the crisis of 1929 to have occurred because the claims of creditors grew so large that they ate up the profit of producers. These creditor claims largely result in his opinion from the fact that modern money is a form of debt. It is, as we have seen, the debt of banks—the liability of banks to their depositors; but against this is to be set the liability of business to the banks in respect of bank loans, and business securities held by the banks. But Mr. Jones's estimate of the total debt apparently includes all interest-bearing securities, mortgages, and the public debt, as well as bank loans—in other words a great deal of indebtedness which has nothing to do with the monetary system. If our object is to estimate the total annual debt charge on the earnings of business, interest-bearing securities must of course

¹ Op. cit., pp. 82–3.

be included. But it is a mistake to include the public debt, since the charge which arises from this is a charge on the Government, and not on business. Further, since Mr. Jones gives very little information on the composition of his total figure, it seems probable that it is a *gross* and not a *net* figure. To arrive at the annual debt charge on the profits of business, we must exclude payments made by one business to other businesses which hold its securities as an investment. Such payments are charges on the earnings of the first business, but are themselves part of the earnings of the second. Mr. Jones does not mention this point.

Thus Mr. Jones's total debt figure certainly includes some items which should have been omitted. His notion of what constitutes the annual debt charge is also erroneous, since he includes in it a charge for "obsolescence" or "depreciation". It is obvious that the owner of capital must meet this charge if he wishes to preserve his capital intact, but since that is equally true whether the capital was bought out of borrowed money or not, the charge is not part of the debt charge. Finally, it is clearly wrong to compare the total debt charge (assuming it to be accurately computed) with the profit *per unit of production*; the correct comparison must be with *the aggregate of profits*.

These are the more obvious flaws in his argument. We may now ask whether other statistical

facts and estimates lend any plausibility to its conclusion. According to Dr. King's estimate, the total income of entrepreneurs and other property owners in all industries except banking and Government in the United States was, in 1925, \$33,599 million.¹ This total, of course, includes the income of the owners of businesses as well as that of their creditors, and is therefore the total fund of gross profit out of which charges on interest-bearing securities were paid. Bank charges would of course have been met before the total of gross profit was arrived at, but we can make some sort of allowance for this by adding to the total the income of property owners and employees in the banking industry in the year in question. This gives us a total of \$34,693 million. Out of this were met bank charges, which we may again take to be represented by the total income—\$1,049 million—of the banking industry and its employees; interest on funded debt, the net amount of which was \$1,678 million; and interest on mortgages on farms, totalling \$235 million. The aggregate of these charges is \$2,962 million, which is no more than $8\frac{1}{2}$ per cent. of the total fund out of which they were met. For the years from and including 1920, the corresponding percentages were $7\frac{3}{4}$, $9\frac{1}{2}$, $9\frac{1}{2}$ and 9. This looks like a decisive negative answer to Mr. Jones's theory.

The really fundamental objections to it, however, are once again independent of the rightness or

¹ *National Income and its Purchasing Power*, p. 108.

wrongness of Mr. Jones's figures. His theory in the first place, would make it very difficult to understand why the onset of depression should have been sudden and not gradual. If debt charges gradually increase until they become too heavy a burden for business to carry, we should expect a gradual decline of profits, not a boom period of exceptionally high profits turning sharply into a slump. Secondly, the explanation that debt was growing at a faster rate than production cannot, on Mr. Jones's figures at least, be applied to any previous crisis except, in part, that of 1921. But depressions have been a recurrent phenomenon throughout modern industrial history, and one depression has many general resemblances to others. It is unlikely therefore that the most recent of them should have been due to causes radically different from those which produced its many predecessors. Thirdly, and finally, though a depression is admittedly marked by an increase in debt charges relatively to business earnings, it is certain that this relative increase is due to the decline in earnings and not to the increase in debt. Depressions are also marked by a growth in the real value of debt charges. But this is due to the fall in the general level of prices, which increases the value of the money in which debt charges are reckoned. Both the increase in debt charges relatively to business earnings, and the growth in their real value, therefore, are secondary rather than primary characteristics of a depression.

They are the consequences, and not the causes, of the fall in the general level of prices and the decline in business receipts to which it gives rise.

In his *Horses and Apples* Mr. Jones turns from general economic theorizing to a criticism of the methods used in constructing index numbers. His criticism amounts to the charge that the economic statistician does not know what he is doing when he computes an index number, and that the attempt to measure changes in the general level of prices or in the volume of production by such means involves a number of elementary mathematical fallacies. Since index numbers of production figure prominently in the argument of *Debt and Production*, Mr. Jones's second book appears to be in some sense a recantation of his first.

Mr. Jones's argument is to the effect that the conception of an "average price", on which he supposes index numbers of prices to be based, is meaningless, because the individual prices which are to be averaged relate to all manner of diverse goods and services for which no common unit of measurement exists.

How [he asks] shall the average price of horses and apples be found? Let us say there are ten horses for sale at one hundred dollars apiece, and one hundred bushels of apples for sale at one dollar a bushel. How shall we compute the average prices of both the horses *and* the apples? Is it not clear that the question is

meaningless, and that such a procedure will be quite as senseless as trying to add horses to bushels of apples or trying to multiply them together? . . . This being the case, then what do the words *average wholesale price*, which we find in many books giving economic statistics, mean? . . . In order to arrive at an average price for average physical unit of such different materials or goods as are sold in such a wholesale commodity market it is necessary to multiply the total quantity of each kind of goods by its price per unit quantity, add all these products together, and divide by the sum total of all the quantities sold. But, since such a sum total of quantities cannot be obtained [because we cannot add horses to apples] the economic statistician has taken the sum of all the products of price per unit quantity of each kind and the total quantity sold as a measure of price.

In other words, he has multiplied the number of horses sold by the price of each, and thus obtained the total sum spent on horses, which he has added to a similar total for apples and every other commodity in the list.

To prevent confusion this should be called *total dollars*. This total dollars has in itself been used as a measure of average price, and by relating these totals in percent. of the total obtained for some one year, the statistician has arrived at what he calls a series of *price indexes*.

But, Mr. Jones observes,

such a series of total dollars spent can *only* be taken to also represent a series comparable with average prices *when the quantities of the commodities sold do not change*. . . . If we say that the total dollars figures . . . for our horse and apple market represent the dollars spent

on the *same number of horses* and the *same number of bushels of apples* each year, then the resulting index numbers will give us the per cent. change in the average price of horses *and* apples from year to year in terms of the average price for the base year. But this can be taken as an *average* price index only if the same *average* number of horses and apples have been sold during every year that were sold during the base year. *Here is the crux of this whole discussion.* How can such an *average* number of horses *and* apples be determined?

This is the difficulty, according to Mr. Jones, which the statistician seeks to avoid by the process of *weighting*. But this only postpones

the inevitable necessity for adding, multiplying and dividing different quantities of horses and apples. . . . The only element used in this work *common* to both horses and apples, and also common to *all* other commodities, is the dollar which enters in as dollars per unit quantity, or price, irrespective of whether the quantity unit be a horse, a bushel of apples, a locomotive, a pound of cheese, a ton of steel, or a yard of canvas. Hence if this index can be taken as representing anything it can only be taken as representing the total dollars that would have been spent in any year for which an index number has been thus calculated, on the assumption that the *same quantity and kinds of commodities* were sold during such year that were sold during the base year. Thus only does the Wholesale Price Index retain any sort of rationality. . . . It must be obvious that these index numbers give us no idea as to whether more or less horses, or more or less apples were actually sold at either lower or higher unit prices in any two years having the same index number, nor do they give us any idea as to whether the actual total dollars spent in any year was greater or less than that spent in any other

year. . . . If we be told that prices are up 10 per cent. in the horse and apple market, all we know is that relative to the average number of dollars spent for horses and apples during some period of which this year is a part, the number of dollars being spent has increased 10 per cent. But this does not tell us whether the price per horse, or the price per bushel of apples, has or has not changed or how much, nor does it tell us whether the change in dollars spent is due to more or less horses, or to more or less apples being bought at lower or higher prices. . . . Recently it was reported that the price index showed a small increase. But during this same period, as a whole the reported prices per unit declined. This decline in prices per unit must have resulted in an increase in quantities bought at these lower prices per unit, sufficient to produce an increase in the total dollars spent. It was this increase which was reported as an *increase in prices*. Consequently, any successful attempt to raise what is called the *price level* actually means that more dollars have been spent. This may have been entirely due to a decline in prices per unit. If the prices per unit are actually increased, it will follow almost inevitably that the so-called *price level* will decline because, unless a greater number of dollars of adequate *purchasing power* are available in the market, less dollars will be spent. I hope it is now clear that any reported change in the *price level* based on such indexes, is merely a report of a *relative* change in total number of dollars spent, and of nothing else. It is perhaps little wonder that no one seems to understand what actually happens, and that almost any statement as to prices is almost immediately contradicted by the facts.¹

The above argument can only be described as

¹ *Horses and Apples*, pp. 11-26.

a gross misrepresentation of statistical procedure, based on a complete misunderstanding of the aims and methods of index-number construction. Mr. Jones has made the task of refutation easier by directly contradicting himself. At one moment he states that an index number represents the total number of dollars that *would have been spent*, had the quantities of the various commodities sold been the same in the year in question as in the year with which comparison is made; at the next moment he tells us that the index number represents the actual number of dollars that *were* spent. The first of these statements is, for certain types of index number, correct; the second is completely untrue of any index number; and both obviously cannot be true of the same index number.

Mr. Jones's fundamental mistake is his supposition that an index number is based on a computation of the "average price". An index number calculated in this way would presumably express the "average price" of one year as a percentage of the "average price" in the base year, the year whose price is taken as 100. But to average the prices of a number of things, some measured in pounds, others in tons, others again in units of length, area, or volume, or simply by number, would, as Mr. Jones points out, be a very doubtful operation. In fact, no index number attempts it. An index number, in the words of Irving Fisher, is not a ratio of averages but an average of ratios; what it represents is the average

change in prices, not the change in the "average price". In other words, what is averaged is not prices, but price changes. The prices of a group of commodities will change, over a period of time, in different directions and by different degrees. An index number gives us an average figure by which we can judge the total effect of these different changes. These matters, it should be observed, are made perfectly clear in Appendix 3 of Irving Fisher's *Making of Index Numbers*. This is another standard work which seems to have been omitted from Mr. Jones's extensive reading.

Such being the essential nature of index numbers, one index number differs from another principally on account of differences in the list of commodities included, in the type of average used, and in the method by which the individual ratios are weighted. The purpose of weighting is to ensure that a change in the price of an individual commodity only has an effect on the index number proportional to the importance of the commodity as an object of expenditure. It would be absurd, for example, to allow a 25 per cent. rise in the price of champagne to have the same effect on an index number as a 25 per cent. rise in the price of bread. This may be avoided by giving bread a much heavier weight than champagne. The net effect of the weighting and averaging process, in the case of the commonest type of weighted index number, is to give us a figure which represents changes from year to year (or from month to month) in the aggregate

cost of the collection of commodities which were actually bought in the base year. In Mr. Jones's language, such an index number tells us, in percentage form, the "total dollars" which would have been spent in any individual year if the same quantities of goods had been bought in that year as were bought in the base year. It tells us the changing price of a fixed collection of goods. As we have noted, Mr. Jones seemed to have grasped this at one point in his argument. There is nothing illogical in this procedure, whatever he may say; nor is there the smallest excuse for confusing the index number so calculated with an index of the total dollars *actually spent* in the successive years.

An alternative method is to show, not the change from year to year in the cost of the collection of goods actually bought in the base year, but the change in the cost of the collection of goods actually bought in each successive year. These procedures are equally logical. A further refinement is to calculate index numbers by both methods, and take the (geometric) average of the two as the final figure. By this means we reach Professor Fisher's "ideal" index number, of which there is a long and fruitless discussion in Mr. Jones's Appendix. Other formulæ used in index-number construction are not so easily translated into words. But they all have at least this in common, that the allegation that they merely measure changes in total dollars spent is not true of any of them.

Mr. Jones's remarks on index numbers of

physical production are equally wide of the mark. His argument, which is too confused to be summarized here, displays complete ignorance of the rationale of the various processes employed. The problem to be faced, and the methods used, in constructing index numbers of physical production are the counterpart of the problems and methods of price index numbers. A price index number expresses the changes which would have occurred in the total cost of goods purchased, had the quantities of the goods purchased remained unchanged ; an index number of physical production expresses the changes in the total value of goods produced which would have occurred if their prices had remained unchanged. Mr. Jones's contention that an index of production in fact merely measures changes in the total money cost of production is therefore without foundation.

CHAPTER VIII

MACHINES AND TRADE DEPRESSION

I. Our results up to this point have been purely negative. None of the theories we have considered has proved able to survive close examination ; nor have any of them succeeded in throwing any real light on the problems with which they are concerned. If we wish for an acceptable account of the economic effects of mechanization and of the deficiencies of the financial system we must evidently seek it elsewhere.

A study of the displacement of labour by machines should obviously include a survey of the recorded facts. Neither Major Douglas nor Mr. Henderson has attempted such a survey, though material for it can be discovered without much difficulty in various official publications. Mechanization is, for example, one of the subjects investigated in the Board of Trade's Censuses of Production. The facts regarding the advance of mechanization, as measured by the horse-power of machinery available per operative, and the changes in employment which occurred between the Censuses of 1924 and 1930, are summarized in Table I. The figures show both a considerable

TABLE I

Industry.	Power per Opera- tive, 1930, in h.p.	Per- centage Increase in Power per Opera- tive, 1924-30.	Numbers Employed, 1930, in thousands.	Per- centage Change in Numbers Em- ployed, 1924-30.
<i>Factory Trades :</i>				
Chemicals	3.83	+ 55	175.1	— 1
Paper, Printing and Sty.	2.23	+ 55	360.4	+ 7
Non-metalliferous Mining Products .	5.78	+ 53	58.7	+ 5
Miscellaneous . .	2.22	+ 43	146.5	+ 4
Non-ferrous Metals .	2.69	+ 36	103.0	— 10
Vehicles	1.41	+ 31	272.3	+ 12
Bricks, Pottery and Glass	1.85	+ 24	174.7	0
Textiles	2.55	+ 23	963.9	— 18
Engineering and Ship- building	2.29	+ 20	733.7	+ 1
Food, Drink and To- bacco	1.71	+ 20	447.3	+ 4
Leather	1.73	+ 20	44.9	— 7
Iron and Steel . .	0.21	+ 19	470.4	— 6
Clothing	0.25	+ 14	446.4	— 4
Timber	1.75	+ 10	154.1	+ 14
All Factory Trades .	2.51	+ 24	4551.4	— 4
<i>Non-factory Trades :</i>				
Bldg. and Contracting	0.40	— 2	452.1	+ 11
Mines and Quarries	3.75	+ 32	1010.1	— 21
Public Utilities, etc.*	1.39	+ 1	770.5	+ 6
All non-Factory Trades	2.33	+ 15	2232.7	— 8
All Trades	2.45	+ 21	6784.1	— 5

* Exclusive of Electric Supply Undertakings in figures relative to h.p.

increase in mechanization and a decline in the total of employment. But the decline in employment is very unevenly distributed between the different industries. In eight cases out of the seventeen an increase in mechanization occurred along with an *increase* in employment. And an increase in employment is also shown by four out of the nine industries for which a more than average increase in mechanization is recorded. In other words, the progress of mechanization is a very untrustworthy guide to the course of employment. As regards the industries covered in the Table, it proves wrong in about as many cases as it proves right. We cannot, of course, conclude from this that mechanization is of no importance as a cause of unemployment; but it is evidently only one factor in the situation, and it is capable of being overshadowed by others.

The total of employment in an industry, however, is in some ways a less important fact than the proportions in which the total is distributed among different kinds of workers. Table II shows separately the numbers of operatives and administrative workers in certain of the industries covered by the Census. These figures reveal a pronounced tendency to replace operatives by administrative workers. This is a result which it is reasonable to attribute jointly to mechanization and rationalization. But here again the tendency cannot be uniformly related to the rate of increase in mechanization. While the number of operatives declined

TABLE II

Industry.	Number of Oper- atives Employed in thousands.		Number of Ad- ministrative Workers Employed in thousands.	
	1924.	1930.	1924.	1930.
<i>Factory Trades :</i>				
Chemicals	142.1	135.2	35.1	39.9
Paper, Printing and Sty.	286.8	303.5	51.6	56.9
Vehicles	212.8	233.3	30.7	39.0
Bricks, Pottery and Glass	161.3	161.5	12.6	13.2
Textiles	113.4	904.4	59.6	59.5
Eng. and Shipbldg. . .	623.0	619.4	110.5	114.3
Food, Drink and Tobacco	360.2	369.3	69.0	78.0
Iron and Steel	457.5	426.6	42.9	43.8
Clothing	422.3	402.3	42.7	44.1
Timber	121.1	136.8	14.3	17.3
Other Factory Trades .	316.8	304.5	42.2	48.6
All Factory Trades . . .	4218.3	3996.8	501.2	554.6
<i>Non-factory Trades :</i>				
Bldg. and Contracting .	379.4	419.0	31.3	33.1
Mines and Quarries . .	1254.8	990.3	26.0	19.8
Public Utilities, etc. . .	667.6	693.5	62.0	77.0
All non-Factory Trades .	2301.8	2102.8	119.3	129.9
All Trades	6550.1	6099.6	620.5	684.5

in many industries, the number of administrative workers increased everywhere except in the depressed mining and textile industries. Moreover, even where the number of operatives also increased

the proportionate increase in the number of administrative workers was considerably greater in every case except in Building and Contracting, which, significantly enough, is the only industry of the group in which mechanization made no progress over the period. The conclusion to which these facts point is that changes in methods of production are associated with changes in the character as much as in the volume of employment. Factory work is tending to decline ; but office work has been rapidly expanding.¹

Further light on the relative importance of different sources of employment is thrown by the Ministry of Labour's Statistics, given in Table III. These, though they exclude Agriculture and Domestic Service, include several important industries which are outside the scope of the Census of Production, and thus present a more comprehensive picture of the economic life of the country as a whole. Less than half of the workers in insured trades, it is evident, depend on the factories for their livelihood ; and the proportion has been tending to diminish rather than increase. On the other hand, certain non-factory industries have undergone remarkable expansion. Transport and Distribution by 1934 had absorbed 38·5 per cent. additional workers, or roughly 600,000 ; Building

¹ It must be remembered, however, that 1930 was a year of depression as compared with preceding years. If the Census had been taken in 1929 the decline in the number of operatives would presumably have been somewhat smaller.

TABLE III

INDEX NUMBERS OF INSURED WORKERS IN EMPLOYMENT, JUNE OF EACH YEAR (JUNE 1923 = 100).
(Bracketed figures = actual numbers in thousands, June 1934)

Industry.	1924.	1925.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.
Fishing (26)	105.6	108.1	113.2	115.4	117.4	116.3	120.9	112.0	118.3	118.1
Mining and Quarrying (707)	99.2	77.8	81.8	72.0	76.5	71.7	59.5	54.9	56.5	55.9
Manufacturing Industries (5,096)	104.4	104.2	108.9	107.8	110.4	102.1	93.3	93.5	99.1	104.3
Building and Contracting (943)	107.0	114.3	128.5	124.7	128.0	125.3	131.5	117.8	124.6	135.6
Transport and Distributive Trades (2,153)	105.5	110.8	119.2	121.9	125.9	127.2	130.4	133.0	134.6	138.5
Gas, Water and Electricity Supply (178)	100.8	104.7	101.8	100.8	100.3	101.1	104.4	101.8	107.6	116.5
Miscellaneous (582) . .	107.3	113.2	121.0	124.2	130.2	131.0	137.2	138.8	146.4	152.6
National and Local Govt. (392)	96.1	99.3	96.8	97.7	100.3	105.1	110.5	107.2	107.4	107.8
All expanded (7,684) . .	106.1	111.0	119.5	121.3	125.8	125.2	126.0	125.6	130.9	137.3
All contracted (3,152) .	100.9	92.4	94.4	88.9	90.5	81.2	70.1	68.4	71.2	73.3
Total (10,836)	103.8	102.9	108.6	107.2	110.5	106.1	101.7	100.7	105.0	109.5

and Contracting 35·6 per cent., or roughly 250,000 ; and the Miscellaneous group (which includes hotels, entertainments, laundries, and other "service" industries) 52·6 per cent., or roughly 200,000. At the same time Mining and Quarrying suffered even more disastrous contraction than is revealed by the Census of Production figures, declining over the decade by 44·1 per cent., or roughly 560,000 workers. The same wide divergency is shown by the figures for the individual industries composing the various groups. Changes in the individual industries of the Manufacturing group, for example, range between a maximum decline of 49·0 per cent. in the case of Pig Iron (Blast Furnaces) and a maximum expansion of 198·0 per cent. in the case of Electrical Wiring and Contracting, against the average expansion of 4·3 per cent. for the group as a whole.

II. The picture which these figures present is substantially different from that which the theories of Major Douglas and Mr. Henderson would have led us to expect. There is no evidence of any universal displacement of men by machines or of any general decline in the demand for labour. Mr. Henderson's theory of the "economic consequences of power production" thus breaks down on the practical as well as the theoretical test. The inference which the figures suggest is that power production is tending, not to the elimination of labour, but to its increasing concentration in certain types of employment. The field of employ-

ment for operatives has been narrowing, but that for administrative workers has been widening. The number of jobs available in factories has diminished, but the number available outside the factories in transport, distribution and "service" industries generally has rapidly increased. The possibility of expansion in these latter industries is the important thing that has been overlooked in Mr. Henderson's analysis.

It is not difficult to suggest the reason. Administration, distribution and services are largely unsuited by their nature to the methods of power production. We may mechanize the routine work of the factory, and we may mechanize the manager's office by equipping it with typewriters, dictaphones, and calculating machines, but we cannot mechanize the work of management itself. Nor, except to a very limited extent, can we mechanize the sale of goods. We cannot mechanize any intellectual or imaginative task; we can provide the worker with mechanical assistance, but no machine can think or create. In fact, though Mr. Henderson is perfectly correct in pointing out that machinery is displacing human muscle as the source of the energy required in production, this is only a supersession of the least important of the economic functions of labour. His mistake, which is also the mistake of the Technocrats and other engineer-economists, and of such scientific writers as Professor Soddy, lies in the supposition that all economic activity consists essentially in

the consumption of physical energy. But this is only one aspect of the production of wealth, and it is important only in a limited number of cases. It is manifestly untrue to argue that all objects of wealth derive their power of ministering to human wants, and, therefore, their value, simply from the physical energy consumed in their manufacture. All processes which cannot be reduced to uniform routine, or which require the exercise of judgment, tact, or imagination, are tasks which call for distinctively human qualities. As labour becomes relatively superfluous in the mechanized trades, it is, therefore, both intelligible and desirable that it should flow increasingly to those in which machinery offers little competition. The ability to devote a decreasing proportion of its efforts to the basic tasks of production and an increasing proportion to such comparative refinements as distribution and services is the mark of an advancing economic civilization.

Further, the figures completely disprove the contention that workers thrown out of employment by new processes can only be re-employed in production for export markets. Perhaps a small proportion of the additional workers in Transport and Distribution may be regarded as working for export—i.e. in the transport of goods destined for export—but a much larger proportion, as well as virtually all the additional workers in the other two rapidly expanding groups, must owe their employment to the expansion of the home market.

The expansion of Transport and Distribution and the Miscellaneous group, moreover, has proceeded uninterruptedly throughout the depression of 1930 and the succeeding years. The theories of Major Douglas and Mr. Henderson regarding the purchasing power of the home market are thus finally answered by the facts themselves. Indeed, these ten years appear to have witnessed a movement of exactly the opposite character from that which the arguments of these writers could have led us to expect. The quantity of British exports, according to Board of Trade figures, was in 1924 116·2 per cent. of the quantity in 1930 ; by 1933 it had fallen to 78·4 per cent. This is a very much greater decline than occurred in the physical output of industry as a whole, which had fallen by 1933 to 98·1 per cent. of the 1924 total, according to the Board of Trade Index Number. Thus the exporting industries have suffered much more severely on the whole than the rest of industry, as the employment figures, particularly for such industries as Mining, Textiles and Shipbuilding, themselves show. What has been taking place, therefore, is not a decline in employment originating in the home market industries and relieved by the expansion of the export trades, but a decline largely centring in the export trades and relieved by the expansion of activities serving the home market. Since the expanding Transport, Distributive and "miscellaneous" trades are by their nature almost entirely sheltered from foreign

competition, their expansion cannot be attributed to the protective policy and the consequent decline in the "unfavourable balance of Trade" since 1931.

III. The test of experience thus forces us to reject the view that improving industrial efficiency must lead to a contraction in the total of employment. Theoretical considerations are no less conclusive. Doctrines such as those of Mr. Henderson are commonly associated with the view that men lose their jobs because industry has learned how to produce all the wealth that is needed without their assistance. Unemployment, we are told, heralds the arrival of a new age of leisure, based on the unlimited productive powers of modern industry. Such opinions are among the oldest fallacies of economics. As long ago as 1820 Robert Owen declared that the factories of Great Britain were in a position to "saturate the world with wealth". The notion that a world without railways, steamships, electricity or motor-cars could be described as "saturated with wealth" seems strange to us to-day. But the fallacy which prompted Owen's misguided declaration is still current.

The truth is that a general glut of wealth is an impossibility. The conception is self-contradictory. A glut is an excessive supply, evidenced by a fall in value. Values are conventionally measured in money, but the real value of a commodity is its value not in terms of money but in terms of other commodities. A general glut is impossible because

a simultaneous fall in the value of everything in terms of everything else is impossible. Hats may fall in value until each becomes worth fewer umbrellas, but umbrellas cannot at the same time fall in value in terms of hats. Or to put the same fact in slightly different language, a general glut is impossible because it implies a general increase in supply without a corresponding increase in demand. Since the goods a man produces, or the services he renders, are themselves the ultimate source of his demand for the goods and services produced by others, an increase in the supply of one thing is itself an increase in the demand, in terms of goods and services, for other things ; and a general increase in supply is therefore at the same time a general increase in demand. It is only when value or demand is thought of simply in terms of money that the idea of a general fall of values or a general over-production becomes conceivable. This fact means that apparent general over-production is to be thought of as essentially a monetary phenomenon. It would be impossible in a world which conducted its exchanges by barter and not by sale, and its occurrence in our world is a matter of appearance and not of reality.

The lack of demand which occasions depression, in other words, is a lack of monetary demand and not of real demand. The argument that unemployment is inevitable because there is no potential market for the goods which the unemployed might produce is thus easily answered.

The potential market consists, largely, of the unemployed themselves. An increase of employment would increase the output of industry and would at the same time increase effective demand. The very existence of unemployment in fact refutes the argument that the demand for wealth has reached its limit. Unemployment is unsatisfied potential demand. It is an involuntary idleness which prevents men from creating the goods and services which would entitle them to demand the goods and services produced by their fellows.

But an increase of employment is not by any means the only source of a possible increase in the general demand for wealth. Far more important in the long run is the increased demand which follows lowered costs. If invention disturbs the existing structure of industry by introducing new methods of manufacture, it also paves the way for increased demand by making wealth available with less effort. Those who suppose that we have now reached the end of this process are blind to the facts. Invention, it must be remembered, is as likely to result in the introduction of new commodities and the stimulation of new wants, as in an increased supply of familiar commodities. What motor-cars, gramophones and wireless sets have done in the past other inventions will do in the future. But the wants of which we are now conscious already offer full scope for the employment of a productive capacity many times greater than at present exists. The number of people

who find any difficulty in spending their incomes because they have no wants left must be very limited, and there is no reason to suppose that it would be larger even if incomes were greatly increased. According to Mr. Colin Clark's estimate, the British national income, including income from overseas and the sums devoted to new Capital investment, was even in the boom year 1929 only sufficient to provide £349 per family if equally distributed. If we exclude income from overseas and the sums used for investment the average goes down to £310.¹ It is true that there was a considerable volume of unemployment in this year, but even if we suppose that the total might have been increased by 10 per cent. by the disappearance of unemployment, average income per family would still have been well below £400. Unless Mr. Clark's figure is a gross under-estimate (and the evidence of similar previous calculations suggests that, if it contains an error at all, it is more likely to be an error in the other direction) it is clear that the problems of production have not yet received the triumphant solution which the engineer-economists are so fond of announcing. There is ample room for a repetition of the four-fold increase in average standards of living, which, according to the usual estimate, the nineteenth century achieved, before such claims will be nearly justified.

The belief that the world now has at its disposal

¹ *The National Income*, p. 78.

the means of providing for the wants of all its inhabitants in undreamed-of abundance is, in fact, an inference which bears much the same relation to the available evidence as the belief that human labour is disappearing from industry. The advance of productive efficiency is best measured by changes in the quantity of output per worker. The output of industry, in quantitative terms, is measured by index numbers of production, and an index number of output per worker can be arrived at by dividing the index number of production by the index number of employment. The result of this calculation, using the Board of Trade index number of production and an index number of employment derived from the figures already quoted, is shown in Table IV on the opposite page.

The output per worker in manufacturing industry increased, according to these figures, by 18 per cent. between 1924 and 1934; in mining and quarrying the increase was 40 per cent. Both these results represent a very substantial increase of efficiency, but the assertions of certain of the engineer-economists would have led us to expect increases of at least several hundreds per cent. But the figures reached in the table, though they cannot be regarded as precisely accurate,¹ are at least based on carefully compiled official statistics,

¹ In particular they are subject to two sources of error—the employment figures take no account of time lost through sickness or trade disputes, and also cover a somewhat wider field than the index number of production.

TABLE IV

INDEX NUMBERS OF PRODUCTION, EMPLOYMENT AND OUTPUT PER WORKER (1924 = 100)

	Manufacturing Industry.			Mining and Quarrying.			Total, Manufacturing and Mining.		
	Index of Production (June Qr.).	Index of Employ- ment.	Index of Output per Worker.	Index of Produc- tion (June Qr.).	Index of Employ- ment.	Index of Output per Worker.	Index of Production (June Qr.).	Index of Employ- ment.	Index of Output per Worker.
1928	108.2	103.3	104.7	85.5	72.6	117.8	103.6	97.2	106.6
1929	116.9	105.7	110.6	92.6	77.1	120.1	112.0	100.1	111.9
1930	107.2	97.8	109.6	87.4	72.3	120.9	103.1	92.8	111.1
1931	95.3	89.4	106.4	79.7	60.0	132.8	92.1	83.6	110.2
1932	98.6	89.6	110.0	77.3	55.3	139.8	94.3	82.8	113.9
1933	103.2	94.9	108.7	71.5	57.0	125.5	96.7	87.4	110.6
1934	118.3	99.9	118.4	78.8	56.4	139.7	110.3	91.3	120.8

whereas the light-hearted assertions of the new economics are too frequently mere assertions and nothing more. It is quite certain that no study of the actual evidence could justify the inference that the problem of production has been "solved", if this means that further improvements in industrial efficiency are either undesirable or impossible. So exaggerated a conclusion could only be suggested by over-hasty generalization on the basis of a few ill-verified facts.

IV. The satiation of demand owing to the alleged superabundance of wealth must therefore be dismissed as a sensational fiction. The truth is that unsatisfied demand exists alongside of idle productive capacity; the problem of trade depression in its essence is the problem of bringing the two into effective relationship. In other words, it is essentially a problem of organization and co-ordination; and its existence is due fundamentally to the complexity of the modern economic system, to the distance in time and space which frequently separates the act of production from the act of consumption, and to the ceaseless modifications to which the structure of industry is subject in consequence of shifting demand and changing conditions of supply. The displacement of men by machines is one of the causes which deprive men of their jobs, but it is not the only cause, and it co-exists with other influences tending towards the expansion of employment. The actual course of employment depends on the balance between

the forces making for contraction and the forces making for expansion.

The dimensions of the British unemployment during the past thirteen years are shown by the figures given in Table V, which are taken from official publications of the Ministry of Labour.

TABLE V

NUMBER OF INSURED WORKERS UNEMPLOYED, IN THOUSANDS
(EXCLUDING THOSE INVOLVED IN TRADE DISPUTES)

June 1922 . . .	1,563	June 1929 . . .	1,164
„ 1923 . . .	1,298	„ 1930 . . .	1,912
„ 1924 . . .	1,087	„ 1931 . . .	2,707
„ 1925 . . .	1,409	„ 1932 . . .	2,843
„ 1927 . . .	1,069	„ 1933 . . .	2,498
„ 1928 . . .	1,273	„ 1934 . . .	2,124

Up to 1929 the numbers fluctuate about a roughly constant total of something over a million; the succeeding years show a rapid increase followed by a degree of recovery in 1933 and 1934. The employment figures already given tell a corresponding story. It is apparent, therefore, that there are two questions which demand an answer. How are we to account, in the first place, for the steady million, and in the second place, for the sudden increase and subsequent diminution? It seems likely, on the face of it, that the answers to these two questions will be different, for the first relates to a problem of an apparently permanent character, and the second to one which can already be described as in some degree transient. Un-

employment of the first type may be regarded as "normal", in the sense that industry has been unable in this period to function without it; unemployment of the second type is not normal in this sense.

If the records of industrial history are followed backwards, however, it is found that unemployment of the second type has been a recurrent phenomenon over the whole period for which figures exist. It has been associated with the periodic fluctuations in industrial activity usually referred to as trade cycles, and there is no reason for supposing that the increase in unemployment in 1930 and 1931 is not to be attributed to the same general causes. The identity of these causes has long been a subject of controversy, though there is a growing tendency among economists to seek the explanation in the behaviour of the monetary system. To this question we shall return later. For the present it will suffice to point out that any explanation which finds the cause in the displacement of labour by machinery is open to serious objections. Such a theory could not explain the sudden onset of depression—it is difficult to see why the effects of labour displacement due to this cause should have been so much more severe in 1930 and 1931 than in 1928 and 1929. Secondly, it would not explain the world-wide extension of depression; and thirdly, it would not explain why depression should be followed by recovery, particularly when the recovery takes the form of a revival

of depressed industries rather than the reabsorption of the unemployed into other occupations.

The unemployment which we described as "normal" is clearly of a different character. This is unemployment which persists in spite of a growth in the total demand for labour, evidenced by the expansion of the total of employment; and in spite of the maintenance of the general level of industrial activity. That a certain amount of such unemployment should exist, however, is easy to understand, though not to justify. The total figure of over a million does not, of course, represent the continuous idleness of anything like that number of workers. There are some for whom unemployment is more or less continuous; there are others for whom employment is habitually intermittent, and there is a third class, normally in continuous employment, individual members of which, however, find themselves from time to time out of work in the waiting period between one job and the next.

In the latter case the responsibility is obviously shared between the causes which deprived the worker of his first job and those which delay his discovery of the next. Among the first set of causes changes in methods of production are naturally to be included, though the seasonal fluctuations experienced by many industries, and changes in the demand for products, will obviously have similar results. Both are inevitable accompaniments of the change and progress of the modern

world. The second set of causes can readily be accounted for without the necessity of supposing that there is any general contraction in the demand for labour. For, in the first place, labour is often immobile, and fails to move readily from one occupation to another or from one locality to another ; and in the second place the market for labour is not effectively organized, so that there is frequently no satisfactory machinery for bringing those seeking employment into contact with those offering it. Such have been the explanations usually offered by economists to account for "normal" unemployment.¹

The disorganization of the labour market is seen at its worst in the trades where employment is habitually intermittent or casual. Dock services, Building and Public Works contracting are prominent examples. In these trades work is inevitably discontinuous ; there are inevitable intervals between the departure of one ship and the arrival of another, between the completion of one building or contracting project and the commencement of another. The situation is made far worse because these trades tend to attract a number of workers in excess of the total who will be required at any time, all of whom, however, in the absence of permanent engagements owing to the fluctuations in the amount of work each employer will be able to offer, are quite likely to find employment at some time or other. This

¹ Cf. Sir W. Beveridge, *Unemployment*, Chap. V.

explains the apparent paradox that in the Building and Contracting industries a rapid expansion of the total employed has occurred along with persistently high unemployment. Between 1924 and 1929 the total employed rose in the case of Building from 716,000 to 826,000, and in the case of Public Works Contracting from 128,000 to 164,000 ; yet the percentage of unemployment was higher in each case both in 1928 and in 1929 than in 1924.¹ Finally, cases of more or less continuous unemployment may be explained as due to immobility in face of exceptional circumstances, such as the economic decline of a whole trade or a whole area ; or, in some cases, to defects of character in the workers themselves.

On such a diagnosis as this the British system of labour exchanges and unemployment insurance was based. But the achievements of this system in combating unemployment have been extremely disappointing, and " normal " unemployment since 1920 has been much more severe than had been anticipated from pre-war experience.

Before the war [says Sir William Beveridge] the annual percentage of trade union members unemployed ranged from just under one to just over ten ; the mean of the corrected percentages from 1860 to 1914 is 4·5. . . . For the nine years from 1921 to 1929 the annual percentage unemployed in the insured population has ranged from a minimum of 9·7 in 1927 to a maximum of 16·9 in 1921 and has averaged 12·0.²

¹ Beveridge, *op. cit.*, pp. 351-2.

² *Unemployment* (1930), p. 345.

It has been commonly inferred from this that post-war unemployment has been in part the result of certain specific post-war causes, which there have been many attempts to identify. Suggested explanations include the direct effects of the war on the industrial structure ; the growth of economic nationalism in foreign countries and the consequent decline of British export trades ; the financial policy pursued by this country from 1920 to 1931—a policy of deflation aimed at the re-establishment and maintenance of the gold standard at the pre-war gold value of the pound ; and the high level of British wages, which is presumed to have made costs too high in relation to prices and to have handicapped British producers in competition both at home and abroad with their foreign rivals, and which has been maintained in spite of depression by the strengthening of the bargaining power of labour resulting from payment of the dole. The first of these explanations may be considered somewhat out of date at this stage, as the interval which has elapsed since the war ceased to exercise a disturbing influence on the industrial structure should have been long enough to allow the additional workers attracted to war industries to find employment elsewhere. For each of the other three suggested causes a theoretical case can be made out, and no doubt all have played some part in the situation. It must be remarked that there is common ground between the third and fourth of them, since it is one of the chief

points of criticism urged against British financial policy that it needlessly placed the country in a position where a reduction of wages was necessary if prosperity was to be restored. Thus these two explanations rest in some degree upon the same economic diagnosis, the level of wages receiving a major part of the blame from those who do not agree that a different financial policy was possible or desirable.

It is clear, at all events, that unemployment has been much more severe in some industries than others, and in particular that the decline, from whatever cause, of certain important industries largely dependent on export markets in the past has greatly complicated the situation. These include coal-mining, the textile industries, iron and steel and shipbuilding. The decline of so many of the older basic industries of the country necessitated widespread changes in the industrial structure if heavy unemployment was to be avoided. The fact that all of the above industries are strongly localized added further difficulties—it is well known that unemployment has been consistently heavier in Scotland, Wales and Northern England—the older industrial districts—than in London and Southern England, the Midlands occupying a middle position. These industries are all included in the table given by the Royal Commission on Unemployment Insurance of industries with relatively high unemployment.¹ The industries in

¹ First Report, p. 8.

this table cover about a third of the total number of insured workers and accounted on the average between 1927 and 1929 for more than half the total unemployment. The percentage of unemployment for this group of industries was 16·3 for these years, against an average percentage of 7·1 for the remaining industries and 10·3 for all industries together. Besides the industries mentioned, the table includes a number in which disorganization is known to be a chronic cause of high unemployment. But it is not clear that these two factors—bad organization and the decline of exports—will between them explain every case. And even if attention is confined to the relatively prosperous industries outside this list, the percentage of unemployment is still higher than the pre-war average: 7·1 against 4·5. Not even in the most prosperous divisions of the country was a percentage as low as 4·5 experienced between 1925 and 1929.¹

It has been felt, therefore, that in addition to the abnormally large amount of labour requiring transfer to new occupations owing to the decline of the older exporting industries, some other fundamental cause must have been at work to slow up the process of absorption sufficiently to produce the observed results. It is for this reason that the high level of wages, or the errors of financial policy, have been brought into the argument. The first factor has been stressed particularly by

¹ Beveridge, *op. cit.*, p. 358.

Professors Pigou¹ and Clay² and Sir William Beveridge³; the second by Mr. Hawtrey⁴ and Mr. Keynes.⁵ The possible influence of high wages on unemployment has been recognized even by economists who defend such a policy; their argument being that high wages will be a valuable stimulus to industrial efficiency, though they may also cause increased unemployment.⁶ Sir William Beveridge's contention that real wages have been increasing at a faster rate than physical output per worker has been challenged by Mr. Clark, who brings forward statistical evidence that output per head increased between 1924 and 1929 not only faster than real wages, but at a greater rate than appears to have been customary before the war.⁷ Thus the maintenance of money-wages at an unchanged level in face of falling prices may have tended to increase unemployment, but it may also have accelerated the improvement of efficiency. No final answer to either question, however, is possible.

As regards the possible bearing of financial policy on employment, we cannot anticipate the

¹ *Economic Journal*, Sept. 1927.

² *Ibid.*, Sept. 1929; *The Post-War Unemployment Problem*, pp. 77, 154-8.

³ *Unemployment* (1930), pp. 360-72.

⁴ *Trade Depression and the Way Out* (1933), especially Chap. IX.

⁵ *Treatise on Money*, Vol. II, pp. 181-5.

⁶ J. W. F. Rowe, *Wages in Practice and Theory*, p. 229.

⁷ *Economic Journal*, Sept. 1931.

discussion of the following chapter. But it is safe to say that if the type of analysis developed by Mr. Hawtrey and Mr. Keynes has any degree of truth, British financial policy between the return to the Gold Standard in 1925 and its abandonment in 1931 was at least little calculated to help the situation.

CHAPTER IX

MONEY AND TRADE DEPRESSION

I. The preceding chapter has given us another negative result. We have found reasons for rejecting the view that trade depressions can be explained by the development of power production. Apparent general over-production we found to be a monetary phenomenon ; by which we mean that the failure of demand is a failure of monetary demand and not of "real" demand, for real demand is merely the willingness of men to offer their products and services in exchange for the products and services of others. This brings us back again to a discussion of the monetary system. How can we account for the failure of monetary demand ?

We are already acquainted with the fact that the failure of monetary demand which characterizes a depression is largely attributable to unemployment. The unemployment of one group of workers itself causes the unemployment of others. Depression constitutes a vicious circle ; and it follows, incidentally, that an increase in monetary demand, however accomplished—even by the inauguration of Social Credit—would help to break the vicious

circle and to terminate the depression. However, the lack of monetary demand due to unemployment clearly does not take us back to the origin of the depression. To find this we have to account for the lack of monetary demand to which the initial unemployment was itself due. Depression provides the reason for its own continuance, but cannot provide the reason for its own commencement. To explain the commencement we have to find a cause which could initiate a failure of demand even when labour and capital were fully employed.

The explanation which Mr. Henderson and Major Douglas offer we have found to be untenable. They hold that purchasing power is inadequate whether there is full employment or not. Our discussion of this view, and in particular of Major Douglas's A plus B theorem, has established the fact that the incomes of the public are identical in the aggregate with the costs of production of the final product of industry. We cannot explain the failure of demand on the ground that industry does not distribute sufficient purchasing power to buy its own product.

II. It may seem impossible to find any other explanation of the initial failure of demand. But Mr. Henderson and Major Douglas both make an assumption which is not necessarily correct. They both assume that the initial failure of demand is a failure of the demand of the public for consumable goods. The total of consumers' purchases in any period, however, is only a relatively small

portion of the total of all purchases made. Businesses sell among themselves far more, in the aggregate, than they sell to the general public. This is clear from the imaginary history of a loaf of bread which we used to illustrate the argument against Major Douglas. Not only does the public buy from the baker ; the baker also buys from the miller, the miller from the grain merchant, and the grain merchant from the farmer. It is obviously as important for the miller that he should sell his flour as it is for the baker that he should sell his bread. A failure of the demand of businesses for intermediate goods will provide no less adequate an explanation of the commencement of depression than a failure of the demand of the public for consumable goods.

The gross output of non-consumable goods includes—at all events if we retain the supposition that industry is working at full capacity—a sufficient supply of materials and semi-finished goods to replace the stock of working capital consumed in production ; similar replacement goods to replace fixed capital consumed, and also all current additions to capital, both working capital and fixed capital. Two things differentiate the demand for goods of this sort from the demand for consumable goods. In the first place, the demand is largely the demand of businesses, and therefore does not depend on the direct utility of the goods themselves, but on the anticipated profit to be derived from their use in production ; and in the

second place the money with which they are bought is largely borrowed money, so that the demand for them may also be affected by the ease or difficulty of borrowing. As far as the money required for the purchase of working capital is concerned—that is, for short-period investment in materials destined soon to emerge as goods ready for sale either to the public or to other businesses—the principal lenders are the banks.

This obviously suggests that the initial failure of demand for whose cause we are searching may be due to an insufficiently accommodating attitude on the part of the banks. If the banks restrict their lending the total amount which businesses are able to borrow for the purchase of materials may not be large enough to create a demand for all the materials produced. Some part of these materials remains unsold, or is sold at a loss ; the production of materials is therefore curtailed in the effort to avoid further losses ; unemployment ensues, and with it diminished consumers' purchasing power, and the vicious circle is complete. The diminished consumers' purchasing power itself further reduces the demand for materials, since the producers of consumable goods are now themselves threatened with losses. Depression has been initiated and continues on its own momentum.

Such an explanation has, as against the explanation that the initial failure of demand is a failure of consumers' demand, the great advantage that it is in close agreement with certain well-established

statistical facts regarding the nature of depression. While depression is a period of reduced demand for all goods, the reduction of demand, and hence of production, is in general much greater in the case of capital goods than of consumable goods. This is a fact on which students of depression seem to be in virtually unanimous agreement. Professor Cassel's conclusion, for example, based on a study of evidence relating to many countries during the later nineteenth and earlier twentieth centuries, is that

a period of advance is one of special increase in the production of fixed capital ; a period of decline, or a depression, is one in which this production falls below the point which it had reached. . . . The change from periods of advance to periods of decline is in its innermost nature a variation in the production of fixed capital, but is not directly connected with the rest of production.¹

Sir William Beveridge, commenting on the unemployment percentages recorded by Trade Unions from 1860 to 1908, remarks that the figures covering engineering, shipbuilding and metal industries—i.e. industries which produce means of production rather than consumable goods—show fluctuations in employment which not only tend to precede the fluctuations in other groups, but cover a much wider range. “The most violently fluctuating trades”, he says, “are the instrumental ones—concerned with manufacturing the means of further

¹ *Theory of Social Economy*, Vol. II, pp. 521, 523.

production and distribution.”¹ That the present depression resembles previous depressions in this respect is shown by Mr. Clark, whose index number of the output of capital goods in Great Britain records a fall from a maximum of 130·6 per cent. of 1924 output in the third quarter of 1929 to 109·3 per cent. in the first quarter of 1931 ; whereas his index number of the output of consumption goods had over the same period only fallen from a maximum of 122, in the second quarter of 1929, to 115. He also concludes that employment in the consumption industries had scarcely decreased at all between 1929 and the first quarter of 1931, although depression was by then already acute.²

That depression is characteristically a decline in the production of capital goods, however, does not by itself mean that its occurrence is due to the policy of the banks, even though it is well known that bank advances are lower in the aggregate during depression than during prosperity. For, in the first place, the willingness of banks to lend is reflected in the rate of interest charged for loans, and the characteristic feature of a depression is a *low* rather than a high rate of interest ; and in the second place, money loaned by the banks, broadly speaking, is only used for the purchase of one class of capital goods—working capital—and not for the purchase of fixed capital. To those who seek the explanation of the occurrence of

¹ *Unemployment*, pp. 40, 60.

² *Economic Journal*, Sept. 1931, pp. 306–7.

depression in the policy of the banks, therefore, the bankers are able to reply: first, that the decline of their advances during a depression is due to a scarcity of borrowers, that the total which they are willing to lend at such times is in fact greatly in excess of the total which borrowers are willing to take; and secondly, that, in any case, the funds which they lend are mostly used to meet the working expenses of businesses and not for permanent capital extensions, so that the rate of interest they charge, whether it is low or high, cannot greatly affect the total cost of production and hence the willingness of businesses to borrow. If a manufacturer foresees a profitable sale for his goods he is not likely to be deterred from producing them by a rise in the rate of interest he must pay on money required to buy his materials and pay his wages bill. If he has to borrow £1,000 for three months, for example, a rise in the rate of interest even by as much as 3 per cent. will only add £7 10s. to his total costs.

Nevertheless, the weight of evidence is strongly on the other side. In the first place, if depression is characterized by low rates of interest, a scarcity of borrowers and an abundance of loanable funds, it is equally true that the crisis which commonly precedes a depression is characterized by high rates of interest, an abundance of borrowers, and a scarcity of loanable funds. Lord Goschen, as Sir William Beveridge remarks, wrote of the crisis of 1866 under the title "Seven per cent.", and of

the depression of 1868 under the title "Two per cent."¹ A contemporary author might write of the crisis of the autumn of 1929 under the title "Six and a half per cent.", and of the depression of 1933 under the title "Two per cent.". If we can explain the commencement of depression as the result of a high rate of interest, it will not be difficult to explain why it should continue for some time in spite of a low rate of interest. The coming of depression will itself give rise to the anticipation of losses and discourage businesses from borrowing. Once the vicious circle is completed depression itself provides the reason for its own continuance.

In the second place, the tendency of a high rate of interest to slow up the activity of business is to be connected with its tendency to cause a fall of prices, which may be regarded as a fact beyond dispute. Falling prices are themselves a symptom of slackening business activity, and reflect the diminution of the profits received from the sale of goods which characterizes depression. It is beyond dispute that a high rate of interest tends to produce a fall of prices, since this is in fact one of the chief objects which a high rate of interest is used to achieve. Rates of interest, under modern monetary systems, are not determined by the free play of supply and demand. Their movements follow the movements of *bank-rate*, which is the rate at which the Central Bank will discount specified types of bills of exchange—i.e. lend

¹ *Unemployment*, p. 53.

money for short periods on specified conditions—and which it, of course, has the power to vary as occasion arises. A high bank-rate is the approved method of discouraging an export of gold or encouraging its import, and thus of maintaining the gold standard; and its effectiveness is due to the fall in prices which it causes. A fall in prices influences the movement of gold because it affects the balance of trade. It tends to decrease imports and increase exports and therefore to decrease the total of payments being made to other countries relatively to the total being received from them, and thus to remove the excess of payments due over payments being received to which, as we saw in a previous chapter, the tendency for gold to be exported is due. The high bank-rate also owes some of its effectiveness to the fact that it encourages the inflow of foreign money by raising the rate of interest which it can earn if deposited in a bank or used in various other ways, and discourages the outflow of domestic money for the same reason. This, in fact, is the chief reason for its *immediate* effectiveness as a deterrent to the export of gold, but in the long run its influence on the balance of trade by reason of its tendency to produce a fall of prices is more important.

Now there is no doubt that the reason why the high bank-rate causes prices to fall is that it slows up the activity of business and therefore reduces the demand, first of producers and then of consumers. Thus the possibility of a causal con-

nection between high interest rates and the commencement of a depression is attested by the very purpose which, according to the practice evolved by the experience of the Bank of England during the nineteenth century, a high bank-rate has traditionally been used to effect. The objection that the willingness of businesses to borrow for the purchase of materials is not likely to be much affected by the rate of interest charged for loans is therefore inconclusive. The effect of a high rate of interest on the activity of business being indubitable, we must look for its explanation to the behaviour of some other type of borrower whose sensitiveness to the rate of interest is likely to be greater.

III. There are two important theories on this point. The first is that of Mr. Hawtrey, who explains the effects of changes in the rate of interest by reference to their influence on the actions, not of producers, but of dealers. A dealer carries stocks of goods, the purchase price of which, to a large extent, he borrows from his bank. In his business therefore the rate of interest will be a larger element in costs than in the business of a manufacturer. A rise in the rate of interest will cause him to contract his stocks, so that he can repay part of his loan. But in order to do so he must refrain from replacing his stock as it is sold by reducing his orders to producers, and perhaps accelerate its sale by offering a lower price. Manufacturers will experience reduced de-

nands, and will in consequence curtail production. The diminution in the demands of manufacturers for loans will therefore be the secondary result of the high rate of interest. Its primary result is a reduction of the stocks of dealers.

The second theory is that of Mr. Keynes. Mr. Keynes believes the primary effects of a high rate of interest to concern the purchase of new *fixed capital* goods rather than the purchase of working capital by manufacturers or dealers. The purchase of new fixed capital by industry is undertaken in order to extend productive capacity, whereas the purchase of materials is necessary in order to maintain the existing rate of output. The rate of interest is likely to have a greater influence in causing business to postpone or accelerate an extension of its plant and equipment than in determining the extent of its current activities. But a very large part of the demand for new fixed capital comes in any event not from businesses in the ordinary sense but from municipalities, public utility undertakings, and other public bodies. The decisions of such bodies are likely to be much more sensitive to the rate of interest than are those of businesses, since the rate of interest will largely determine the annual cost of a given capital programme. A municipality, for example, considering a scheme of local development—the building of new municipal offices, new swimming baths, new public libraries, or other amenities, or the provision of new houses to

replace the slums—will find the additional revenue which it must raise, or in the case of housing, the rent at which it will be able to let its houses, very closely dependent on the rate of interest. A fall of the rate of interest from 4 to 3 per cent. will make a difference of nearly two shillings a week in the rent at which it will be able to afford to let a house costing £500 to build. In fact, as soon as we consider the very large proportion of new fixed capital which is not designed to serve a fluctuating market, the rate of interest becomes the predominant factor in determining demand.

However, money borrowed for the purchase of new fixed capital is not to any large extent directly provided by the banks, and therefore the rate of interest charged by the banks does not directly enter into the calculations of borrowers of this class. The banks are concerned almost exclusively (as far at least as Great Britain is concerned ; the practice is different in other countries) with short-term loans for the purchase of materials and the payment of wages ; long-term loans for the purchase of fixed capital are provided by issues of securities through the investment market. The rate of interest at which money is borrowed in this way depends on the price at which the issue can be sold. But this in turn is influenced by the general level of interest rates. The price at which new securities can be sold obviously has a close relation to the price at which existing securities of the same type are quoted in the market.

Money will not be used for the purchase of securities if it can earn a higher return, allowing for the difference in the character of the investment, by being deposited with a bank or used in the money market. If the return obtainable in these ways rises, holders of securities will be tempted to sell them and find other uses for their money until their prices are forced down to a point where the rate of yield obtainable by purchasing them is comparable to the rates obtainable in these other ways. But the lower the price at which new securities can be sold the higher is the cost of borrowing. Thus a high level of short-term interest rates tends to be associated with a high level of long-term interest rates ; and conversely. The price level of securities, and hence the cost of borrowing for long-term purposes, is subject to the same controlling influence as the rates charged, and paid, by the banks—namely, the bank-rate policy of the Central Bank. And in so far as the Central Bank supplements its bank-rate policy by purchases or sales of securities in the open market, it exerts, of course, a direct influence on the prices of securities.

IV. Either of these two theories—of which the second, that of Mr. Keynes, is probably the more generally acceptable—will give us a theoretically satisfactory explanation of the initial failure of demand from which depression springs. Both of them explain the failure of demand as in the first instance a failure of the demand for

capital goods, due to a rate of interest which for some reason is deterrent to borrowing for the purchase of capital goods. This accounts for the initial downward turn in the activity of business. Producers of capital goods experience reduced demands and falling prices for their goods. They reduce their output, discharge some of their workers, and lessen their demands on the banks for loans. Unless something happens to arrest its development—for example, a rapid fall in the rate of interest—the depression becomes cumulative owing to the secondary effects of the original failure of demand. The inactive businesses cease to renew their stocks of materials, and the unemployed workers perforce reduce their consumption. There is no difficulty in accounting for the intensification of a depression when once the downhill movement has been commenced.

But the theory is not yet quite complete. If it is possible for the demand for capital goods to be too small, may it not also be too large? and if depression results from the former condition, what is the result of the latter? The answer is that the demand for capital goods may certainly be too large, and that if it is, there results the opposite of depression—a boom. Just as a decline in the receipts of the producers of capital goods leads to unemployment, declining production, falling prices, and general reduction of demand, so an increase in the receipts of the producers of capital goods leads to increased employment, increased

production, rising prices, and general expansion of demand. The chain of cause and effect is reversible. But obviously there is a more definite limit to the increase of production during a boom than to the decline of production during a slump. The limit is imposed by the existing supply of labour, equipment and natural resources. When that limit has been reached the further expansion of demand can increase output no further; it can only intensify the rise in prices. There ensues the condition of feverish over-activity which constitutes inflation, just as the cumulative decline of demand during a slump leads to the condition of morbid inactivity which constitutes deflation.

If then the demand for capital goods may be excessive as well as deficient, there is presumably a mean which will avoid both extremes. The maintenance of economic health requires that the demand for capital goods be of exactly the right proportions. Taken with the demand of the public for consumable goods, it must be large enough to make the aggregate demand capable of buying the entire output of industry, consumable as well as capital, at a price which on the average covers costs and does not yield a larger profit than is necessary in order to secure the maintenance of output as a whole. That is to say, the amount spent in the purchase of capital goods must be equal to that part of total costs which is not covered by the amount spent in the purchase of consumable goods. But the total net costs of

industry, as we have seen, are equal to the total income of the public ; and that part of total net costs which is not covered by the amount spent in the purchase of consumable goods is equal to that part of income which is not devoted to consumption, which in other words is saved. Thus we reach Mr. Keynes's formula, according to which the maintenance of stability in the activity of business demands that the amount spent in the purchase of *new* capital goods, or the "value of investment" as he terms it, be equal to the savings of the public ; or in other words, that the *gross* demand for capital goods exceed the value of the capital goods consumed in current production by an amount equal to the savings of the public. As long as savings are equal to the value of investment, as thus defined, that part of income which is not spent on consumption will, in effect, be used for the purchase of new capital goods, and industry's receipts from the sale of goods will be equal in the aggregate to its costs, since they will be equal to the total income of the community.

This formula gives the theory we have outlined the necessary precision. It is not simply a variation in the value of investment or the net demand for capital goods which gives rise to a boom or slump, but a variation in the value of investment relatively to the total of savings. It is possible therefore that a slump may originate, not by a decline in the value of investment, but by an increase of saving not balanced by an increase of investment ;

or that a boom may originate, not by an increase of investment, but by a decline of savings not balanced by a decline of investment. The formula also shows that the rate of interest may affect the situation in more than one way, since a high rate of interest will not only discourage the purchase of capital goods and cause investment to decline, but will also have some tendency to increase savings ; and *vice versa*. However, variations in investment are probably more important in practice than variations in savings. The rate of saving is not likely to change spontaneously, and it is probably considerably less sensitive to changes in the rate of interest than is the rate of investment. The principal effect of a change in the rate of interest is not on the total of savings, but on the extent to which the savings of the public find their way into investment and are actually used for the purchase of capital goods.

It is evident therefore that the argument which is sometimes heard, to the effect that money saved is automatically used for the purchase of capital goods, is erroneous. The proper function of saving is to make it possible for the community to add to its capital wealth by setting free productive resources from the production of immediately consumable goods ; but deflation is a condition in which savings are failing to result in investment and are wasted, while those who should be producing the capital wealth are deprived of their livelihood. On the other hand, inflation is a condition in which

investment exceeds savings, and the creation of capital wealth is proceeding to an extent beyond that permitted by the current savings of the public. The abstinence from consumption which is the necessary condition of the creation of additional capital goes beyond that which the public is voluntarily undertaking and further abstinence is forced on them by the rise in prices.

V. Both booms and slumps therefore may be regarded as due to a failure of the mechanism whose function is to effectuate the decisions of the public, as manifested by their saving, into the creation of capital wealth. Such a mechanism is necessary because the connection between the individual's decision to save and the utilization of his savings for the purchase of capital wealth is in most cases necessarily indirect. If the individual is the owner of a business he can use his savings for the purchase of additional stock or equipment ; or if he owns real property he can spend his savings in improving it. But most people are not the owners of businesses or even of dwelling-houses. If they save therefore they either place the money on deposit at their banks, or have recourse to the services of some intermediary institution—a savings bank, a building society, or an insurance company—to which they entrust their money and the task of finding a profitable use for it ; or else they use their savings for the purchase of securities of one sort or another. In these cases the individual saver has little control, or even knowledge, of the

use to which his savings are put. This depends on the action of the financial institution, or of those from whom the securities were bought. The term "investment" is commonly applied to the purchase of securities, but this action is to be distinguished from the purchase of capital goods, which is the sense in which the word is used in Mr. Keynes's formula. Obviously it is only when new securities are issued to finance new capital expenditure that the money paid for the securities flows directly into the purchase of new capital goods. The purchase of existing securities merely transfers rights of ownership over, or claims on the earnings of, *existing* capital wealth. The purchase of new securities does the same when it represents the sale of an existing concern, or claims on its earnings, by private proprietors to the investing public.

Thus money saved by the public does not find its way into investment automatically. The amount of investment does not depend in the first instance on the amount saved, but on the demand of borrowers who have capital projects to finance, and this is determined among other things by the rate of interest. If borrowers are plentiful those to whom the saved money passes will find it easy to make good use of it. But if they are scarce this may be difficult or impossible. Those who have received the money can always choose not to part with it at all if any possible investment appears too risky. They will retain it, not of

course in the form of actual currency (unless they have reason to distrust the banking system), but in the form of a bank deposit on which they can earn interest. The saver himself may also choose this alternative. But this, as we have explained in an earlier chapter, is equivalent to the withdrawal of a sum of money from active circulation. What would have been an actively circulating current bank account becomes an idle deposit account. In a banking system which, like the English system, maintains a constant ratio between reserves and *total* deposits, irrespective of the distribution of the total between current and deposit accounts, an increase in the total of deposit accounts will not by itself occasion any change in the willingness of the banks to lend. It is a mistake, therefore, to argue that money placed on deposit with the banks is always automatically lent out again. The banks will only attempt to increase their lending if they receive an increase in their reserves, but this only occurs if the "money" which is deposited is additional legal tender cash or an addition to their balances at the Bank of England. In the ordinary course of events what is deposited when a new deposit account is created is neither of these things, but a cheque on one of the joint-stock banks. The new deposit account is created by the destruction of an existing current account. Thus the transaction is really the precise equivalent of the "hoarding" of unspent coins in a community which has no banking system, except of course that

where a banking system exists the hoarder will expect to receive interest on his "hoard".

Thus savings will exceed investment, and the total demand for capital goods will be less than is required to maintain the activity of business. Businesses will incur losses equal, in the aggregate, to the excess of savings over investment, i.e. to the amount by which their total aggregate costs, which are the same thing as the income of the community, exceed their total receipts from the sale of goods. But the opposite condition is equally possible. The total of funds flowing into investment may include money previously held idle; or, as we saw in discussing certain of Major Douglas's theories, some of the money used for the purchase of capital goods may be newly created by the banking system in additional loans. The maintenance of stability demands that both extremes be avoided. The rate of interest must be fixed at a point which will make the amounts spent in the purchase of new capital goods equal to the current savings of the public.

VI. The above argument leads to the conclusion that the responsibility for the occurrence of depressions rests with Central Banks, since it is they who control the rate of interest and therefore wield the weapon which determines the relation between savings and investment. This obviously compels us to ask why banking policy has not been more effectively used for the prevention of depres-

sions. For this there are several reasons. In the first place, it must not be supposed that the maintenance of equality between savings and investment is a particularly simple task. It is impossible to doubt that investment is encouraged by a low rate of interest and discouraged by a high rate of interest, but it does not follow that the same rate of interest will always give rise to the same total of investment. The response of investors to a given rate of interest must depend partly on the dearth or plenty of capital projects, or of the ideas from which such capital projects spring. To some extent this may depend on factors unconnected with the rate of interest. It may be affected by the rate of *invention*—the rate at which new uses for capital wealth are discovered. It is obvious that the invention of the railway, for example, must have been a very powerful stimulus to investment quite independently of the rate of interest. Variations in the supply of new ideas requiring capital for their execution may thus cause the theoretical rate of interest which would make investment equal to savings to vary. A decline of investment may be due, not to a rise in the actual rate of interest, but its failure to fall in company with this theoretical rate.

In other words, the rate charged for borrowing is only one of the factors determining the decisions of potential investors. As far as most commercial investors are concerned the chief of the other factors is not so much the supply of ideas as the

general business outlook. This may have so powerful an influence as to obliterate altogether the influence of the rate of interest. Investment may continue to grow in spite of a rise in the rate of interest if business is booming, and it may decline in spite of a fall in the rate of interest if business prospects are gloomy. This is simply another example of the fact which we have already repeatedly noticed, that a boom or a slump, once it is started, tends to continue on its own momentum. It means that the initiation of a boom or a slump itself alters the theoretical rate of interest necessary to make investment equal to savings. A slump commences, perhaps, because the rate of interest is *somewhat* deterrent to investment; the fact that it has commenced makes the same rate of interest *highly* deterrent to investment. The rate must be rapidly lowered if the onset of depression is to be checked. Similarly, the commencement of a recovery itself stimulates investment, since it is impossible to increase the output of industry without increased investment in working capital. The baker cannot bake more bread until the miller has first supplied him with more flour. But while the miller is making the additional flour he will be employing additional workers who will receive wages before there is any increase in the output of the consumable things which they will wish to buy. Prices will rise—unless it happens that the savings of the public are increased at precisely this moment. Recovery from a slump is

therefore not likely to be possible without inflation. A rate of interest which allowed a moderate excess of investment over savings will suddenly permit an unmistakable boom. To check the inflation as soon as it has restored productive activity to normal, and without replacing it by deflation, may be a task of great delicacy.

The major part of the reason, however, why Central Banks have not been more successful in preventing depressions is undoubtedly that they have rarely attempted it. The full implication of the influence of monetary policy on the activity of business has only been relatively recently recognized. Most of the principles of banking policy were established at a time when the possibility of preventing booms and slumps by varying the rate of interest was hardly dreamed of. During the nineteenth century the Bank of England, though no doubt aware, partly or wholly, of the influence of its bank-rate on business conditions, in all probability regarded its decisions as a more or less inevitable response on its part to the situations with which it found itself faced. The overriding consideration was, not the prevention of booms and slumps, but the preservation of the solvency of the banking system. A high bank-rate was thought of, not primarily as a means of restraining investment at a time of threatened inflation, but as a means of arresting a decline of the reserve ratios of the banks owing to the increased circulation of cash among the general public, or a decline in

the gold reserve of the Bank of England owing to the export of gold. If deflation and depression followed its use, they were regarded rather as part of the inevitable mutability of human affairs than as preventable disasters.

The reserve ratio of a bank, as we have already seen, is the ratio of its cash reserve to its deposit liabilities. The reserve ratio will decline if for any reason customers of the bank continuously withdraw more cash than they return. Apart from certain well-recognized seasonal tendencies, and apart from the possibility of distrust of the solvency of the bank, the principal reason for the decline in reserve ratios is a rise in prices and an increase in business activity. If prices rise, the public are likely to take more cash about with them for daily transactions, and if business activity increases more cash goes into circulation owing to increasing employment and the tendency of wages to rise. For the sake of their solvency the banks will take steps to arrest the decline in their reserve ratios. They cannot do so by increasing their reserves, except with the consent of the Central Bank (for reasons explained in an earlier chapter), and in any case the amount of additional legal tender cash which the Central Bank itself can supply is limited according to the amount of gold in its possession. Sooner or later a point is reached, therefore, when the decline in reserve ratios can only be arrested by a restriction of lending designed to reduce the total of deposits, or at least to prevent

their further expansion. The rise in interest rates comes as a means of enforcing this restriction of lending.

Now, according to the argument summarized above, the legitimate use of a high bank-rate is to check an incipient inflation ; to prevent it from developing beyond the point at which productive resources are fully employed, and issuing merely in rising prices and falling real incomes for all those whose money incomes cannot be readily increased. The decline in the reserve ratios of the banks is an indication of inflation, and the situation is therefore one for which a high bank-rate is in general appropriate. But it is also a situation which may easily be mishandled. The inflation may easily give place to deflation, particularly if the Central Bank regards the protection of reserve ratios as comprising the whole or the major part of its duties. The inflation may have continued long enough to allow businesses to become habituated to the prospect of rising prices, in which case enterprises may have been started which have no chance of avoiding losses under more ordinary conditions, and which therefore cannot survive the cessation of inflation. One of the dangers of inflation is that it renders profit making too easy. Or the inflation may have reached the stage at which wages and salaries as well as prices have started to rise. In this case the rise of prices will have ceased to go wholly into the expansion of profits ; it will be partly offset by a rise in the costs of

production. A fall of prices to their pre-inflation level will therefore involve losses unless wages and salaries are likewise reduced. Or again, the increase in bank-rate may have been excessive. Possibly the first attempts of the Central Bank to check the inflation may have been unsuccessful owing to the impetus of the inflation, or to the existence of unfilled orders which kept up the demands on the banks for loans in spite of the high rate, and the Central Bank may have been led to raise the rate again to an unnecessarily high level instead of waiting for the eventual results of its original action. Or, finally, the damage may be done, not by the original increase of bank-rate, but by the failure to lower it again once the inflation has been checked. The cessation of a boom will, as we have seen, bring about a rapid change in business opinion. A boom is a period of over-confidence, when investment can only be held in check by a high rate of interest ; but as soon as inflation has been stopped confidence declines, and optimism may easily turn to pessimism unless the rate of interest is quickly lowered again.

The use of bank-rate primarily for the protection of reserve ratios, therefore, while it may not be inconsistent with its use for the prevention of depressions, offers no guarantee that depressions will in fact be prevented ; and the explanations suggested are no doubt applicable to many depressions in the past. In fact, the alternation of belated and over-rigorous credit restriction, on the

one hand, with over-generous credit expansion on the other, such as an exclusive reliance on reserve ratios as a guide to Central Banking policy would be likely to produce, may well provide a large part of the explanation of the recurring rhythm of the trade cycle. Alternate overdoses of castor oil and bismuth, as Mr. Keynes has suggested, would give rise to a similar cycle of diarrhoea and constipation in human beings.

Meanwhile, the second traditional aim of bank-rate policy, the maintenance of the gold standard, introduces further complications which may easily make the prevention of depressions a positive impossibility. This is the objective which was dominant in the British situation on most occasions during the six years of the post-war gold standard. We have already mentioned the mechanism by which bank-rate affects the movement of gold. A high bank-rate tends to attract gold—in the first place, because it encourages the inward movement of money seeking short-term investment; and in the second place, because, as one of the effects of the slackening of business activity to which it gives rise, it lowers the general level of prices, and causes imports to decline relatively to exports.

Some such mechanism as this is essential if the gold standard is to be possible at all. Since the gold standard preserves a constant relationship between the values of different currencies, as measured in gold, it must also preserve a constant relationship, or at least an appropriate relationship,

between price levels in different countries—that is to say between the values of their currencies as measured in goods and services. A divergence in the movement of prices in one country from that in others will cause a flow of gold in the direction where prices are lowest, since low prices encourage exports and discourage imports. The indefinite continuance of such a gold movement being impossible (except of course from a gold-producing country), the divergence of price levels must be brought to an end, or the gold standard abandoned. Thus prices tend to move in the same way all over the gold-standard world. But since rising prices tend to be associated with booms and falling prices with slumps, this means that booms and slumps are also common to the whole gold-standard world. In fact, whenever a country for any reason finds its price level high relatively to the world price level, the maintenance of the gold standard requires that it raise its bank-rate and bring its price level down.

But this means that its Central Bank must take action to check investment, whether such action is justified by its internal economic situation or not. It must adopt a policy appropriate to conditions where an excess of investment over savings is leading to inflation, when, in fact, the opposite conditions may exist. Thus the maintenance of the gold standard may very easily prove incompatible with the use of bank-rate to prevent booms and slumps. Bank-rate policy

under the gold standard tends, in fact, to be directed, not to maintaining the stability of business activity, but to securing that it is equally unstable everywhere. The idea is "not to keep sober, but, in accordance with a perfect standard of manners, to enjoy just that degree of tipsiness (or sick-headache) as characterizes the company as a whole".¹

VII. During the nineteenth century, and up to the outbreak of the war, these difficulties, inherent in the nature of the gold standard, were concealed by the fact that Great Britain's financial position was so strong that the Bank of England easily dominated the world's monetary system. This country was not obliged to adapt its policy to that of the rest of the world, since the rest of the world followed the Bank of England. But the position of the Bank of England since the war has been substantially different, and the present depression largely originated in the credit restriction of the years 1928 and 1929, which was due to two external causes of disturbance. The first cause was the American boom and the steps taken, finally with devastating success, by the Federal Reserve System, to bring the Wall Street speculation to an end. The strong creditor position of the United States made the effects of the rise in her rates of interest especially powerful, and interest rates elsewhere rose in defence of gold reserves. The second disturbing influence was the continued absorption

¹ J. M. Keynes, *Treatise on Money*, Vol. II, p. 222.

of gold by France, which, largely owing to its legal inability to purchase securities, the Bank of France was powerless to check. In face of two such strong attacks on its gold reserve it is not surprising that the Bank of England should have been led to raise its bank-rate to a point likely to cause investment to fall below savings. With credit restriction thus in progress both in London and New York, deflation spread rapidly throughout the world.

It is true that there were other non-monetary causes of instability at work at the same time in various parts of the world; in particular there was undoubtedly a relative over-production of certain agricultural commodities which by itself would have created serious difficulties for a number of agricultural countries, while much of the international borrowing of the years prior to 1929 went beyond the limits of prudence. Nevertheless, the international character of the slump is mainly attributable to the gold standard. The gold standard stands in the way of an attempt to use the rate of interest in order to stabilize the activity of business. It makes it impossible for different countries to pursue the credit policies appropriate to their several needs, but compels them to follow the policy of the countries whose financial position is strongest. If there could be no divergence between the policies chosen by these countries and the policies appropriate to the rest of the world, this would not be important. But in the

post-war period such divergencies have been present. In 1928 and 1929 the credit policy pursued by France and the United States diverged from that appropriate to the rest of the world, and the world slump followed.

This does not quite justify the conclusion that the slump was the inevitable result of the re-establishment of the gold standard after the war. The beginning of the slump was the inevitable result of the policies actually pursued ; but it is clear, at any rate after the event, that a different policy *might* have been chosen. France *might* have modernized her monetary system and made it less dependent on a large gold reserve ; the Federal Reserve System *might* have intervened with more determination to check the Wall Street speculation before it had attracted gold from the rest of the world and had reached the stage when it would only yield to drastic measures. Certainly the Central Banks of the world might have shown more eagerness to undo the damage and prevent the needless intensification of the depression. But mistakes of policy will be possible under any system. The fault of the gold standard is that it renders such mistakes needlessly costly, and costly not only to those who have made them, but to everyone else.

If the precipitation of the world slump constitutes the first, and gravest, count in the indictment which may be brought against the gold standard, the special economic difficulties of Great Britain

since the war provide a second. Deflation in England did not begin in 1929, it had been almost continuous since the collapse of the post-war boom in 1920. Its purpose was first, the restoration, and then the maintenance, of the gold standard. But here it is not so much the gold standard itself as the British conception of the gold standard which is arraigned. Deflation was not necessitated by the desire to return to the gold standard, which merely means a fixed rate of exchange between the pound and other gold currencies, but by the desire to fix the exchange between pound and dollar at the rate of \$4.86½ to £1. This was the rate which had existed before the outbreak of the war. But much had happened since this rate had been abandoned, including a great inflation and deflation in both England and the United States. Just as the maintenance of a fixed exchange rate between one currency and others demands that prices in the different countries move in the same way, so the restoration of a given exchange rate demands that the appropriate relationship of the different countries' price levels be re-established. Deflation in England would be necessary if during the interval in which the gold standard had been inoperative price movements had taken different courses in England and the United States, or if some other fundamental change had occurred in the relative economic position of the two countries to make the price level at which Great Britain could maintain this rate lower, relatively to the price level

in the United States, than it had formerly been. A decline in the British export trade from some other cause than relatively high prices in Great Britain would be an example of the latter kind of change. If either, or both, of these circumstances had intervened, the only chance of avoiding deflation in Great Britain would be inflation in the United States.

The probability, judging from the result, seems to be that changes of both sorts had in fact occurred. Mr. Keynes sought to prove that movements of prices had been divergent by comparing the index number of the cost of living in England with a similar index number for the United States.¹ Professor Gregory, however, was able to reply by using a different index number of the American cost of living which gave opposite results.² Thus the appeal to statistics was inconclusive. For possible changes of the second kind many reasons can be found—particularly the growth of manufacturing efficiency in other countries and the special problems of the coal industry throughout the world. At any rate, in the event, deflation was found necessary in England, not only in order to restore the old rate of exchange, but also in order to maintain it when it had been restored. The whole period from the re-establishment of the gold standard in 1925 to the monetary crisis in 1929 was a period of high bank-rate. The further

¹ J. M. Keynes, *Economic Consequences of Mr. Churchill*.

² T. E. Gregory, *First Year of the Gold Standard*.

raising of the rate in 1929 came, in England, as an intensification of an existing credit restriction.

But a high bank-rate was obviously the opposite policy from that which the internal situation—a long-continued depression, with a permanent total of a million unemployed—required. According to many critics the deflation prior to 1929 was more severe than the maintenance of the gold standard necessitated. The Macmillan Committee expressed the view that the Bank of England might have pursued a more venturesome policy after August 1927, when American credit conditions were relaxed with the intention, in part, of assisting the European situation. Mr. Hawtrey has strongly criticized the Bank's policy on similar grounds.¹ He makes the serious charge that the authorities had actually forgotten the effects of a high bank-rate on the activity of trade, and thought of it merely as a device for preventing the outflow of gold by influencing the international movement of money seeking short-term investment. The apparent unwillingness of the Governor of the Bank of England to admit, in his evidence before the Macmillan Committee, that a high bank-rate affects industry adversely, gives support to this accusation.²

Thus Great Britain's economic difficulties during the post-war period may in part be attributed to

¹ *Trade Depression and the Way Out* (1933), Chapters II and IX.

² Committee on Finance and Industry, *Minutes of Evidence*, Vol. I, pp. 212-13.

mistakes in monetary policy which might have been avoided even after the restoration of the pre-war rate of exchange had been decided on. But the more fundamental question regarding the wisdom of the attempt to restore this rate remains. The difficulty of achieving by monetary policy alone the alteration in the price level which this attempt necessitated seems by now to be a matter of general agreement. The price level which requires to be adapted in order to complete the readjustment to a new rate of exchange is not the level of prices at which manufacturers are forced to sell their goods if they are to dispose of them (still less is it the wholesale price level as measured by the usual index numbers, since this is largely the price level of imported goods); it is the price level at which manufacturers will find it profitable to continue production, and to expand production if depression already exists. In other words, if the adaptation is to be completed it must be an adaptation of the level of costs of production, and not merely of prices. But the level of costs of production depends on the level of money incomes. A fall of prices therefore, unless it follows a merely temporary rise, can only be maintained at the cost of depression and unemployment, unless and until wages and other money incomes are reduced sufficiently to restore the prospect of profit at the lower level of prices, or until industrial efficiency can be increased sufficiently to reduce costs without reducing incomes.

It is not difficult to understand why such a reduction of incomes may be resisted, and resisted with success in a democratically governed country. If the resistance is successful it follows that the only condition of revival is a rise of prices. But if the condition of the maintenance of the gold standard is that prices shall not rise, it follows that continuous deflation is inevitable. The gold standard must be maintained by causing industry to sell at a loss: the total of imports must be restricted by restricting the purchases of producers and consumers by means of trade depression.¹

These are the monetary reasons which, as mentioned in the preceding chapter, may be held to explain the abnormally depressed condition of British industry during the past fourteen years. On the whole this is by far the most probable explanation. The re-employment of a large number of men, unless it is accompanied by large reductions of wages, must involve credit expansion since it must involve an increase in the total of payments made both by cheque and by cash. It is also likely, as we have seen, to involve a temporary excess of investment over savings. Deflation therefore bars the road to recovery. At the same time it intensifies the effects of other causes of depression. It accelerates the decline of the contracting industries and discourages the growth of the expanding industries. It stimulates the replacement of

¹ Cf. Keynes, *Treatise on Money*, I, p. 274; II, pp. 181 *et seq.*

labour by machines in the effort to lower costs, and renders futile the attempts of the workers to find other employment. To attribute the high level of British unemployment to deflation is therefore not to deny that other difficulties were also present, but to explain why these difficulties were not more successfully surmounted.

CHAPTER X

THE DISHONESTY OF BANKERS

I. The preceding discussion obviously entitles us to claim that the shortcomings of the monetary system offer a much better explanation of the world's economic difficulties than the growth of power production. At the same time, we must beware of destroying the credibility of the case against finance by overstating it. The failings of Central Bankers are not the result of moral delinquency. They spring from excessive caution, from a narrow conception of their powers and responsibilities, and from sheer intellectual mistakes and miscalculations. There is no occasion to question their honesty of purpose, or to accuse them of a deliberate conspiracy in the interests of finance against the prosperity of their fellow-men.

Before we can accept the view that the banks deliberately engineer a slump, it must be shown that a slump is to their advantage. But the general characteristic of a slump is a fall in profits ; and, though the profits of the banks may not be so severely affected as those of manufacturers in heavily depressed industries, it is quite untrue, as

the following figures show, to suggest that they have anything to gain from a slump.

AGGREGATE PROFITS OF JOINT-STOCK BANKS IN ENGLAND
AND WALES (EXCLUDING THE BANK OF ENGLAND)

	£
1927	13,348,722
1928	13,783,812
1929	13,977,765
1930	11,940,736
1931	10,891,926
1932	9,880,084
1933	10,038,499
1934	10,527,957

(From the Banking Supplements of *The Economist*.)

The profits of the banks being mainly derived from their loans, they are not likely to restrict their lending except when they believe themselves to have no alternative. Similarly, though they may gain control of businesses by foreclosing on mortgages, it is nevertheless certain that they do not do so voluntarily, and quite incredible that, as Major Douglas seems to suggest, they should lend only in the hope of being able to foreclose. Any creditor will prefer repayment in cash to repayment in the form of a piece of real property with whose administration he is probably quite unfamiliar and which he may find difficulty in selling. Finally, even though it could be shown that the joint-stock banks could reap an advantage from a restriction of credit, it still has to be remembered that decisions regarding the major questions of banking policy, such as the supply of credit, do

not rest in their hands at all, but with the Bank of England. The Bank of England, though it is a private company which pays dividends on its capital, is not a profit-making institution in the ordinary sense of the word. On the contrary, it owes its position to the fact that it has had the wisdom and the financial strength to choose the policy best calculated, in its judgment, to promote the interests of the commercial community as a whole, regardless of its effects on its own profits. This is shown, among other things, by the high proportion, often in the neighbourhood of 50 per cent., which its cash reserve habitually bears to its outside liabilities. If the Bank were mainly interested in maximizing its profits, it is a safe assumption that its reserve would be used to support a much larger volume of earning assets in the form of loans and securities. In practice, it is retained for use only in an emergency which threatens the stability of the banking system as a whole.

II. Thus accusations of the sort which Major Douglas and other writers criticized in this book so freely make can be dismissed without further discussion. A somewhat more elaborate argument, however, is advanced by Mr. R. McNair Wilson in his books, *Promise to Pay* and *Young Man's Money*. His accusation is, briefly, that the banks, in virtue of their power to lend and create purchasing power, deliberately produce fluctuations in the general level of prices, partly in order to maintain the demand for their services, and partly in order to

defend themselves against the consequences of their own action in creating promises to pay which they have not the means of fulfilling. If industry were continually prosperous, he thinks, businesses would accumulate their own resources and would cease to depend on the banks for loans. This the banks in their own interests are bound to prevent, and therefore they take steps to secure that prosperity is never more than temporary. In addition, continued prosperity means rising prices, and therefore the need for increasing quantities of legal tender money for use in daily transactions. Being called upon to convert an increasing proportion of their deposits into cash—to redeem an increasing proportion of their promises to pay—the banks in self-defence reduce the total of their deposits by restricting their lending. But this causes a fall of prices and a slump, which continues until the banks again lend more freely and force the price level upwards.

The evils of a fluctuating price level would have been obvious enough, in Mr. Wilson's opinion, to have led the Government to take the control of price level out of the hands of the banks and to inaugurate a system of price stabilization, if the banks had not succeeded in persuading the public that fluctuations in the price level were necessary in the interests of the export trades. The public was ready to believe, apparently, that the price level at home needs from time to time to be forced down in order to enable exporters to sell abroad.

But here again the bankers were deceiving the public. The necessity for reducing prices in order to stimulate exports only arises when the banks are threatened with a loss of gold which they cannot meet. This threat is simply the consequence of their own action. They have either made loans to foreigners, the proceeds of which the foreigners will want to receive in gold rather than in goods, unless the goods are cheapened relatively to similar goods abroad ; or else they have lent so much at home that prices have risen and exports have fallen off, so that gold is needed to pay for imports.

Even so, the threat of gold withdrawals could easily be averted by abandoning the gold standard and substituting a system of variable exchanges and inconvertible currency. High prices at home would then lead, not to gold withdrawals, credit contraction and depression, but simply to a depreciation of the currency on the foreign exchanges which would automatically correct the decline of exports and the growth of imports. But this step the bankers resist with all their strength because they foresee that it would destroy their excuse for varying the price level and therefore their power to keep themselves in business.

The existing system [Mr. Wilson concludes] has only two objects, namely, to secure to usury a continuous supply of credit-worthy borrowers and to make it possible for usurers to lend promises to pay (I.O.U.s) far in excess of their actual holdings of money.

From every point of view, except that of money-lend-

ing, the system is crazy. It would be crazy, even from the money-lender's standpoint, if money-lending was in fact taking place. For a man who had lent money, and not merely promises to pay it, would have nothing to fear from an expansion of production. The root of our troubles is the *lending of I.O.U.s by men who do not possess the money necessary to make good these promises to pay*.¹

Mr. Wilson's argument is certainly more fully developed than that of Major Douglas. Nevertheless, it is marred by a serious fallacy. Contrary to Mr. Wilson's supposition, the supply of credit-worthy borrowers is always greatest in times of prosperity and rising prices, and always smallest in times of depression and falling prices. Mr. Wilson admits that a period of prosperity is a period of active lending by the banks; how can he argue at the same time that it is a period when producers as a whole are likely to reduce their indebtedness to the banks? It is true that an individual producer at such a time may find his profits large enough to allow him to repay his bank loan and carry on his business without contracting a new one; but his extra profits are in all probability themselves the proceeds of an additional loan which the bank has already made to another producer. In any case, the repayment of the indebtedness of industry to the banks would not only destroy the business of the banks but also the greater part of the existing quantity of purchasing power. It would, therefore, very rapidly bring to

¹ *Promise to Pay*, pp. 111, 109. Mr. Wilson's italics.

an end the prosperity to which, on Mr. Wilson's argument, it would itself have been due.

Thus the argument that the banks periodically bring about a fall of the price level in order to keep themselves in business is complete nonsense. Mr. Wilson's accusation that the root of the trouble lies in the inherent dishonesty of bankers, which allows them to lend promises to pay which they cannot fulfil, may seem more plausible, since, as we have already seen, it is possible for a slump to be initiated by a change in credit policy resulting from increasing withdrawals of cash into circulation. But this charge also rests on a confusion of thought. What Mr. Wilson objects to is not the actual insolvency of the banks, but the steps which they may be driven to take to prevent it. It is not that they are unable to fulfil their promises to pay, but that in order to fulfil them they may have to resort to measures which have undesirable consequences. Mr. Wilson has therefore no right to say that "the root of the trouble is the lie that a man who has promised to pay ten times what he possesses can possibly fulfil his promises".¹ Unless the banks become insolvent there is no "lie". If the banks are driven to insolvency there is a lie in the sense that they have failed to meet their obligations, but exactly the same "lie" is perpetrated by any other bankrupt.

It is still true, of course, that the restriction of lending to which the banks resort in order to prevent

¹ Ibid., p. 133.

their insolvency may precipitate a fall in prices and a slump. But such action has also a social purpose—the purpose of preventing inflation. Like many others of its critics, Mr. Wilson unduly simplifies the task of the banking system. He seems to suppose that its possible errors lie in one direction only—the direction of deflation. The fact that this is the direction in which its errors have been most recently evident must not blind us to the dangers of inflation. While it is important to recognize that a restriction of credit can lead to depression—the unemployment of productive resources although there is no lack of real demand for their services—it is equally important to recognize that an expansion of credit can proceed beyond the point at which it has removed the monetary obstacles to the re-employment of idle resources, and force the price level upward merely for the expansion of profits. Even if the banking system were nationalized and therefore freed from the fear of insolvency as far as internal payments are concerned (since the State itself could create additional legal tender to redeem its promises when necessary), the necessity for credit restriction might nevertheless arise from time to time. If the nationalized banking system proved itself a better instrument of credit control than the present system, that would only mean that its authorities had become better exponents of the art of Central Banking than the Governor and Directors of the Bank of England as now constituted. It would

have nothing to do with the fact that nationalization would have made the insolvency of the banking system technically impossible—that it would have turned Mr. Wilson's "lie" into indisputable truth.

The nationalization of the banking system, however, is not one of the reforms which Mr. Wilson favours. He regards it as a "matter of no importance to anybody".¹ In his view, all the economic problems of the world could be solved if Governments would adopt a policy of stabilizing the general level of prices. This involves what Mr. Wilson terms a system of "replaceable" money or "ticket-money".

It is of the essence of the policy of keeping prices stable that if and when money is removed from the markets it shall be replaced immediately in the markets. Ticket-money, it is true, like treasure-money [i.e. gold or credit based on gold] can be removed from circulation. Unlike treasure-money, it can be replaced at once so that no fall in the price level takes place. Again, like treasure-money, it can be brought into markets by its owners. But unlike treasure-money, it cannot in such circumstances cause prices to rise, for the Government, being pledged to keep prices stable, will immediately withdraw from the markets a quantity of money corresponding to the quantity brought in.

So long as a printing press is available, a new supply of ticket-money can be produced, to replace a supply which has been hoarded or lost.

Such a system, Mr. Wilson says, will take away

¹ *Young Man's Money*, p. 56, note.

from the financial authorities the whole of their power and " must, if continued long enough, reduce them to the level of book-keepers ".¹

Mr. Wilson believes that this system is now being put into operation in the United States by President Roosevelt. In consequence he anticipates something like the dawn of a world millenium in the next few years.

The American home market, based as it will be on the needs of 120,000,000 persons, will be the greatest which the world has ever seen. In that vast market American producers will be able to recover their cost of production and earn a profit. They will therefore be able to export their goods at prices so low as to compel other nations to adopt their system.

Every other country will be forced to adopt " replaceable money " and to expand its home market.

These expanded home markets will possess a high degree of absorptive power for foreign goods and consequently surplus goods will be exchanged against surplus goods all over the world. . . . As this exchange of surplus goods will benefit everybody and threaten none, all tariffs and trade restrictions will, ultimately, disappear. . . . This is not, let it be urged, a vision of Utopia. It is the certain and inevitable result of the success of the Roosevelt policy—a result which, if Mr. Roosevelt's policy is not destroyed by some at present unpredictable calamity, will assuredly be obtained within the next four or five years.²

¹ *Young Man's Money*, pp. 16–17, 14. ² *Ibid.*, pp. 140–2.

Among later developments to which Mr. Wilson looks forward with equal assurance are the repayment of Government debts with newly created money, the abolition of all taxation, the "increase of pensions and all forms of public payments", and finally the establishment of Major Douglas's National Dividend.¹

However, the reader who wishes to obtain a clear idea of the nature of Mr. Wilson's proposals, or the reasons for expecting these results, will search his pages in vain. In what manner, and through what channels, he wishes the Government to issue and withdraw its "replaceable" money we can only guess; while the character of the new monetary system which will emerge when "replaceable" money has driven the bankers out of business, as he appears to suppose it will, is equally obscure. His case in favour of an attempt to stabilize prices likewise rests on assertion rather than argument. The idea is an old one, dating back at least a century; and its very vitality suggests, perhaps, that there is much to be said in its favour. It has been discussed by many economists in recent years, though no reference to this discussion, or to the questions raised by it, is to be found in Mr. Wilson's pages. However obvious it may be that monetary policy should, in some sense, aim at stabilizing the activity of business, to suppose that the matter has anything to do with the morality of bankers is to confuse the

¹ Ibid., p. 144.

issue. Fluctuations of prices are not the result of dishonest banking; nor will stability of prices compel bankers to conform to Mr. Wilson's standards of honesty. As long as they are allowed to incur demand liabilities in excess of their holdings of legal tender cash they will continue the practices which arouse his censure. Monetary stability would not put the banks out of business; on the contrary it would benefit them no less than the rest of the community.

III. Mr. Wilson's views on money are closely paralleled by those of another exponent of the "new" Economics, Professor Frederick Soddy, who is at the same time a distinguished scientist and a Nobel prize-winner. Like Mr. Wilson, Professor Soddy has been led by the discovery that modern money consists largely of credit created by banks and backed by assets, only a small proportion of which consists of legal tender cash, into the belief that banking is only another name for thieving and swindling. The creation of credit by banks he finds indistinguishable from the uttering of counterfeit notes by a forger.

Anyone issuing money [he says], whether the State, bank, or counterfeiter, makes a forced levy on the goods and services of the nation which the existing creditors, in their capacity as money-owners, give up through the corresponding reduction in the value of each unit of their money.¹

To allow the banks to create money is to allow

¹ *The Rôle of Money*, p. 38.

one of the most important prerogatives of the State to be usurped by private individuals.

But Professor Soddy agrees with Mr. Wilson in rejecting the nationalization of banking. All such schemes, he says, must be avoided "as the plague". Instead he proposes a much more radical innovation. Bankers are to be compelled to keep their liabilities in respect of current accounts covered pound for pound by legal tender cash. This legal tender cash is to be issued to them by the State in return for the transfer to it of the assets, comprising loans to customers, now held against the current accounts. As these loans are repaid by the customers, the State will use the proceeds to redeem the National Debt. Henceforward the banks will be forbidden to make what Professor Soddy describes as "fictitious loans". Only against deposit accounts will they be allowed to hold other assets than legal tender cash. Consequently they will be unable to increase their loans unless some of their cash is rendered superfluous by a transfer of customers' funds from current to deposit accounts, or unless they receive increased deposits of cash from the public. Thus the only loans which they will be able to make will represent, in effect, the lending to one customer of money which other customers are not using. Such loans will not affect the total of purchasing power. The regulation of the quantity of money is to become the function of the State, and is to be carried out in such a way as to maintain stability of prices.

Professor Soddy's accusations against the banks show that he has overlooked some obvious facts. In the first place, the gains of a counterfeiter are made primarily at the expense, not of the community, but of the individual who is deceived into giving up something of value for a forgery for which he himself can get nothing. The counterfeiter falsely represents that his forgery is genuine money; but the banker does not represent his obligations as anything other than what they are—the right to demand legal tender money from him. Bank credit is an acceptable form of money because the right to demand legal tender money from a bank is regarded for practical purposes as equivalent to the legal tender money itself; a forged note is not acceptable because, once it is detected, everyone knows that it is worthless.

In the second place, Professor Soddy appears to believe that bankers create money for their own private use—indeed, he explicitly declares that the banks “create money to spend themselves”.¹ But a bank cannot place any sum to the credit of its own profits unless it has a balancing item on the assets side of its accounts, or unless it deliberately falsifies its books. The latter accusation is perhaps one which Professor Soddy would not shrink from making, but such conduct can hardly be regarded as part of the normal operations of a bank, which is what he is professing to describe. In any case, if he believes that the banks habitually

¹ *The Rôle of Money*, p. 92.

create their own profits out of nothing, how does he account for the fact that the total of bank credit is not continuously expanding?

Finally, the accusation that the issue of credit is a "forced levy" on the community cannot possibly be true except when its consequences are inflation and rising prices; for unless prices rise the value of the money in the possession of the general public is not diminished and they suffer no loss. Judged by this criterion the "levy" has amounted to less than nothing over the past decade.

Thus Professor Soddy's reasoning hardly reaches the standard which might have been expected of a Fellow of the Royal Society. The rest of his system of "Cartesian Economics", or "Ergosophy" as he calls it, is equally open to criticism. In addition to his plans for reforming the monetary system he also considers it necessary to take steps to lighten the "burden of debt". To this end he proposes that the State should devote a portion of its revenue every year to the purchase of capital. It should " earmark the tax levied on what used to be called ' unearned income ', or the part derived from savings, for the purchase of the investment, and the revenue from the part so acquired for the same purpose".¹ The meaning of this proposal appears to be as follows. The annual income from a capital investment valued at £100 million will (assuming the rate of interest to be 5 per cent.)

¹ Ibid., p. 185.

amount to £5 million. Income tax on this £5 million at the rate of four shillings in the pound is £1 million. Under Professor Soddy's scheme the State will use this £1 million received as tax for the purchase of part of the investment. Thus the value of the investment will be reduced to £99 million, and in the second year the income from it will be £4,980,000, and the tax £996,000. This tax will again be used for a second purchase by the State, together with the £50,000 received by it as interest on the portion previously acquired. In this way it is calculated that the time required for the purchase of the whole capital would be 40·2 years.

Professor Soddy claims that such a scheme "would be in accord with the physical decrement of accumulated capital wealth, and enable obsolete and obsolescent plant to be kept up to date by private enterprise".¹ The proposal originates in its author's conviction that the so-called "laws" of interest are in conflict with scientific facts. No source of energy can last for ever; and to suppose that capital can, as it were, replenish itself out of its own product—that it can continue indefinitely to yield an income to its owner after providing for depreciation and obsolescence—seems to Professor Soddy closely akin to the fallacy of perpetual motion. Sooner or later, he thinks, all capital equipment must wear out and become incapable of yielding any net return. Failure to realize this

¹ *The Rôle of Money*, p. 186.

fact imposes on business a burden which must eventually become insupportable, and leads old-established industries to clamour for assistance from the Government. Professor Soddy's proposal is apparently designed to transfer to the State part of the inevitable loss arising in this way, and so to encourage private investors to provide the fresh capital necessary to rejuvenate decaying industries.¹

At the same time Professor Soddy anticipates that the capital coming into the ownership of the State will provide a revenue out of which "when the existing debt is cleared off" (whatever that may mean) it will be possible to pay national dividends. How a revenue is to be obtained from capital which is worn out is not explained. But, this question apart, Professor Soddy's views regarding interest provide an excellent example of the pitfalls into which an uncritical attempt to reason about economic facts in terms of physical concepts may lead. The payment of interest has nothing to do with the dissipation of energy. The reason why the gross return on capital is sufficient, generally speaking, to yield an income to its owner after allowing for the expenses of repair and replacement is that the advantages of its use more than balance the disadvantages or costs involved in its maintenance. In the case of industrial capital the advantages become visible in the form of the additional goods, which can be produced with the aid of the capital and which could not be produced

¹ Cf. *Wealth, Virtual Wealth and Debt*, pp. 267 *et seq.*

without it. The value of these additional goods is sufficient, in general, to defray the expense of maintenance and yield an income to the owner in addition. In the case of a house inhabited by its owner, the advantages consist of the shelter and warmth which the house provides. These are likewise sufficient, as a rule, to make it worth while for the owner to keep his house in repair; in other words, there remains in this case also a surplus of net gain after the cost of maintenance has been met, and it is this which explains why the owner is able to charge a rent if he lets his house to someone else. In neither case can the net gain be described in terms of energy. It consists, if it can be said to consist of anything, of "utility"—which is simply a term used in economics to denote that an object possesses the power of satisfying human wants or desires. Capital yields an income, therefore, because it possesses utility; because it provides services which human beings regard as valuable, or makes possible the production of goods which they are willing to make sacrifices to obtain. These are psychological—or economic—facts, not physical ones, and Professor Soddy's argument admirably illustrates the truth that the attempt to force economic facts into conformity with the laws of physics and chemistry can only lead to confusion.

CHAPTER XI

CONCLUSION

I. We must be content with a much less sensational view of the deficiencies of the monetary system than that which we have just discussed. The monetary causes of booms and slumps lie, as we have argued, in the influence of the rate of interest on capital expenditure ; and the contribution which monetary policy can make to the restoration of prosperity therefore is the stimulation of investment by a low rate of interest. It should be the permanent function of the rate of interest to maintain capital expenditure at such a level as to secure the stability of economic activity in general. The principal obstacle to the successful pursuit of such a policy in the past has not been the self-interest of bankers or the inadequacy of the mechanism at their disposal. It has been the general failure to realize the importance of the influence of monetary policy on economic activity, and the assumption that a " sound " currency is one which has a stable value in terms of gold. This assumption has tended both to fetter the Central Banker's freedom of action and to prevent him from realizing the full extent of his responsibilities. But the statutory

obligations based upon it were terminated, in this country, by the crisis of 1931; and with the inauguration of a policy of low interest rates which was thereby made possible, the monetary system began at length to function in the interests of recovery. The abandonment of the gold standard has removed the major cause of conflict between monetary policy and the general economic welfare; as long as it is not re-established, the prospect of maintaining the accord between them must depend upon the practical wisdom of those who administer the monetary system rather than upon any further change in its structure.

At the same time it must be pointed out that most of the writers criticized in this book fail to draw the conclusions to which their own arguments logically lead. If the charges which they freely level against the bankers were true, the banking system ought at once to be taken out of private hands. Public ownership is the logical remedy for the abuse of private ownership for anti-social ends; and the nationalization of banking is obviously a far more practicable proposal than its abolition in favour of a totally new kind of monetary system. Yet the remedy is rejected by those who are most vocal in complaining of the disease. All of the writers whose views we have considered, with the exception of Mr. Henderson, seem to fear socialism even more than they dislike the bankers. In the monetary changes they propose they see a means of reforming the economic system while retaining

the private ownership of industry. Their object being to destroy the case for socialism, they cannot proceed to put it into effect by means of a reform which would itself be socialistic.

A general discussion of the arguments for and against socialism does not fall within the scope of this book. On the proposal for the thoroughgoing nationalization of the banking system we need only comment that it will naturally form part of any programme aiming at the general replacement of private by public ownership, and that its desirability must be judged by reference to the desirability of such a programme as a whole. The proposal to nationalize the Bank of England, however, stands on a somewhat different footing. Whether private ownership remains the dominant type of business organization or not, the special functions of direction and control exercised by the Bank of England over the rest of the monetary system, and through it over the economic life of the whole community, sharply differentiate it from an ordinary business institution. They are functions which cannot be properly fulfilled if the Bank's directors regard themselves primarily as servants of its stockholders and make the earning of profits their main concern. No informed person suggests that the search for profits in fact exercises any influence on the Bank's decisions. Nevertheless, it is an anomaly that private stockholders should have even a formal interest in them, and that the appointment of directors should nominally

be in their hands. In practice, decisions regarding the appointment of new directors probably rest with the existing directors rather than with the proprietors of the company, which results in a method of appointment resembling that by which new fellows are elected to colleges at Oxford and Cambridge. But the case in logic for the transfer of the Bank to public ownership is indisputable. It rests, not on the possibility that the Bank's actions may be influenced by the private interests of directors or stockholders, but on the fact that Central Banking policy is a matter of vital public concern. It is often asserted that Central Banks ought to be independent of Government control in order that they may be strong enough to prevent excessive Government borrowing and so preserve the integrity of the public finances. But the private ownership of the Bank of England did not prevent the inflationary finance of the war period. The fact of public ownership need not place the Bank under the direct control of the Chancellor of the Exchequer ; nor is there any reason why the views of its directors should not carry as much weight on matters of financial policy as they do while the Bank remains a private institution. But if there is a conflict of opinion between the Bank and the Government, it is obviously the opinion of the Government which should prevail.

Nationalization of the Bank of England would give open recognition to the truth, long recognized in practice, that the banking system must be con-

trolled from the centre even under a regime of private enterprise. But if monetary policy is to succeed in restoring and maintaining the activity of industry, it must do so mainly through its influence on the volume of capital expenditure. This influence is exerted principally by means of the rate of interest : it is obvious that it is only in this way that the monetary authorities can affect the capital expenditure of individuals and commercial concerns. But a very large fraction of the total of capital expenditure is undertaken by Local Authorities and other public and semi-public bodies for the building of roads, houses and other public works ; and at the same time a considerable proportion of the total funds available for investment normally accrues in the hands of various Government Departments, such as the Post Office Savings Bank, the Insurance Funds, and the Commissioners of the National Debt. There is a clear case for bringing these sources of funds into closer contact with the outlets for their use ; and this is one of the arguments which have led to the proposal for the establishment of a National Investment Board. In the Liberal " Yellow Book " of 1928, where this proposal was first made, it was suggested that such a Board (to be constituted as a department of the Treasury subject to the Chancellor of the Exchequer) should assume control of all the funds which accrue in the hands of different Government Departments, and should, in addition, be empowered to raise money directly from the public

by the issue of its own securities, which would carry a Government guarantee and some of which would be of small denominations in order to increase the opportunities for safe investment open to the small saver. Out of these funds, it was suggested, all the borrowings of Local Authorities and other public and semi-public institutions should be financed, while the Board would also have the power to lend to Building Societies, Co-operative Societies and similar bodies. It was further proposed that the Board, in conjunction with the Bank of England, should exercise a right of veto over the flotation of overseas loans in the London market. Labour supporters of the proposal have added the suggestions that all public issues of securities should be made subject to its approval, that its powers of lending should extend to ordinary industrial undertakings, and that capital projects of especial urgency, whether of an industrial character or not, should be financed on correspondingly favourable terms. Obviously the idea is an adaptable one, and the precise extent of the Board's functions would depend on the degree of public control which it was intended to introduce into the investment market. Proposals for far-reaching control, like the proposal to nationalize the joint-stock banks, must be judged as part of a comprehensive policy of socialization. But whether such a policy is considered desirable or not, there are good reasons for expecting that the fraction of the total of capital expenditure which is undertaken by

public bodies will increase rather than diminish in the future. At present there is no central machinery for the control and co-ordination of this expenditure. At the same time it is doubtful whether the existing organization of the investment market always results in the best possible disposal of the available savings between different uses. A National Investment Board could assist in supplying both these deficiencies.

II. Reform of the monetary system, however, is at the moment a less urgent task than the restoration of prosperity. Recovery from a depression requires, as we have seen, the breaking of a vicious circle. During a depression the volume of industrial activity shrinks and the total of monetary demand shrinks in consequence at the same time. A lowering of interest rates breaks the circle by creating opportunities for the profitable use of new capital goods; the construction and employment of the new capital creates new incomes and a general expansion of demand is thereby initiated. In addition, borrowing for capital purposes by public authorities is also facilitated by a fall in interest rates. These influences have been at work in this country in the last few years, and it is mainly to the boom in building which is their direct result that we owe the recovery which has been experienced since 1932. Nevertheless, there are good reasons to doubt whether the revival which can be brought about by these methods is likely to be sufficiently rapid or sufficiently far-reaching to

justify reliance on them alone. In the first place, the responsiveness of enterprise to a fall in interest rates is likely to be smaller under present-day conditions than it was during the nineteenth century. The country is now relatively well supplied with industrial capital, and the rapid increase of population has come to an end. The possibility of stimulating investment in industry must therefore depend increasingly on the discovery of new wants and new processes of manufacture ; capital is no longer automatically required merely in order to provide for the needs of a growing body of consumers. Recovery is further impeded to-day, in the second place, by the continued depression of international trade, which is due to causes largely outside the influence of British monetary policy ; while, in the third place, chronic depression of particular areas—the so-called “ special areas ”—has resulted in an all-round decay of economic life which the curative effects of low interest rates, even though they may produce a high degree of prosperity in the rest of the country, are likely to leave untouched.

These circumstances create a strong case in favour of an attempt to speed up the process of revival by means of a programme of capital expenditure by the State. The case in favour of public works as a remedy for depression has often been stated ; it is being urged again by Mr. Lloyd George as these lines are written. Since it has never received more than a lukewarm support from any Government in

this country, and since it may become in the near future a political issue, it is worth while to restate briefly the chief arguments on which it rests. In the first place, a properly conceived policy of this sort would greatly enrich the country. It is obvious that the country as a whole would be better off in every sense that matters, if an additional £100 million or so were spent in the near future in rendering its housing system less inadequate, its roads better suited to the requirements of modern traffic, and its towns less ugly. There is no excuse for characterizing the public-works proposal as a proposal to set the unemployed at work to dig holes in order to fill them up again. To these direct benefits must be added the indirect advantages secured through the general increase in demand which would result from the employment of increased numbers of workers on the schemes and the purchase and transport of materials for their execution. Each worker directly employed is an additional customer for the services of other workers ; and the same is true of these others again in their turn. Thus the total increase in employment and in the production of wealth to be anticipated from the policy very much exceeds the employment directly created and the production directly initiated. In fact, the initial expenditure will set in motion a cumulative process of expansion which is exactly analogous to the cumulative process of contraction which causes a depression. Mr. Keynes, in 1933, estimated that the additional employment created

indirectly in this way must be at least equal to the employment created directly.¹

These arguments, it may be assumed, would be sufficient to convince most people if their very plausibility did not create the suspicion that there must be a catch somewhere. The chief hindrance to the adoption of such a policy hitherto has probably been, not the failure to perceive its advantages, but the conviction that they are only to be bought at the cost of greater disadvantages. The disadvantages which the policy is commonly supposed to entail fall roughly into two classes. In the first place, objection is taken to its effects on the national finances. How will it be possible to raise the large sum necessary without either disturbing the balance of the budget or necessitating an increase of taxation which will go far to neutralize its benefits? The usual proposal for the financing of a public-works scheme is that a Government loan should be raised for the purpose. The annual charge resulting from this will, of course, fall on the budget; and to meet it, if it is assumed that the yield of taxation remains the same, taxes would have to be raised (or expenditure cut down in other directions). The yield of taxes, however, depends as much on the size of the national income as on the rate of taxation; and the yield of existing taxes will only remain unchanged if the national income remains unchanged. But if the expenditure of the loan represents a genuine

¹ *The Means to Prosperity*, pp. 9 *et seq.*

increase in expenditure—in other words, if it can be assumed that the money borrowed by the Government would not have been spent in the purchase of commodities or capital goods if it had not been borrowed—then it is plain that the national income is bound to increase as a result of the expenditure. That indeed is its primary object and justification. Wage-earners will consume larger quantities of dutiable articles such as tea, sugar, tobacco and beer, and will pay more visits to places of entertainment ; salaried persons and employers will in addition pay larger sums in income tax. It is certain therefore that the revenue will benefit without any increase in rates of taxation, provided of course that the benefits of the public-works policy are not neutralized by other factors tending to lessen the national income. Interest and sinking fund on a loan represent at the outside 10 per cent. of the capital sum. But the proportion of the total national income which is taken in taxes probably exceeds 20 per cent. Thus even if the increase in the national income is no larger than the capital sum expended—even if we assume, that is to say, that the increase in employment is limited to the numbers directly employed on the schemes and on the production of the materials required—even on this assumption it seems probable that the gain to the Exchequer will exceed the cost. In addition, account has to be taken of the saving which will be realized in expenditure on the relief of unemployment. It

is true that the amount thus saved must also be deducted from the increase in the national income occasioned by the spending of the loan, but the reduction in the anticipated net cost of the scheme owing to this saving will clearly be much larger than the reduction in the anticipated increase in the yield of taxes.

Financial purists may be inclined to object that the opposite policy of stringent budgetary economy, which was adopted in 1931, has already justified itself by its results, and that its reversal would jeopardize rather than encourage the continuance of the revival which was thus initiated. But the recovery since 1931 must not be regarded as the outcome of the budgetary economy which was then enforced. The only contribution which budgetary economy by itself made to recovery was the restoration of confidence which it no doubt helped to engender. The precise importance of this cannot, of course, be measured by statistics ; but on every ground of economics it is probable that the economy policy, particularly the suspension of capital expenditure by local authorities, was a hindrance rather than a help to recovery. That recovery has actually occurred in spite of it is to be attributed to the magnitude of the latent demand for houses which was brought into play by the fall in interest rates and building costs ; and to the effects of the depreciation of the pound and the imposition of tariffs.

The second type of objection comes from those

who fear that in undertaking a public-works policy the Government will be encroaching on the sphere of private enterprise. In borrowing money for the execution of its programme, it is argued, the Government will be competing for capital with the private industrialist, and in spending it will be usurping functions which do not properly belong to Governments, for it should be left to business to determine, in the light of commercial considerations, the direction in which new investment can best be undertaken. Not only therefore will the Government expenditure fail to bring about any net expansion in the national income, since what the Government borrows business must go without, but the projects upon which it is expended will not be paying propositions in the commercial sense—for otherwise they would have been undertaken already by private enterprise—and must therefore in the long run represent liabilities rather than assets.

This attitude is not unlike that officially adopted by more than one recent British Government. But it fundamentally misconceives the position. If it is true that when the borrowings of the Government are increased the borrowings of industry are automatically diminished, Government will, of course, be entirely powerless to bring about any increase in employment or in the national income. But the borrowings of the Government will only diminish those of private enterprise if they cause a rise in the rate of interest which the

private borrower is asked to pay. The determination of rates of interest, as we have seen, is one of the functions of the Bank of England; and the inception of the Government's policy could only cause them to rise if the Bank failed to co-operate with the Government. There is no reason to fear such a failure under present conditions; if it occurred it would make the case for nationalizing the Bank unanswerable. It is obvious that no obstacles ought to be placed in the way of borrowers until the rate of borrowing threatens to become excessive and to give rise to the possibility of inflation. An increase of Government borrowing would only produce this result if the rate of private borrowing were already sufficient to keep the country's resources fully occupied. The fact that the country's resources are not fully occupied, and that industry is depressed, shows that this condition is far from fulfilment. The sums which the Government will borrow, in short, consist not of money which would otherwise find remunerative employment in industry, but of money which would otherwise remain idle. The existence of idle money is an inevitable accompaniment of depression, unless the total supply of money is being unwarrantably restricted by the banking system.

If it is accepted that the Government expenditure will not be a mere substitute for private expenditure, but will be supplementary to it, the objection that it will invade the legitimate sphere of private

enterprise largely falls to the ground. If the public-works policy increases the national income it will increase the demand for the services of private businesses. It is true that the type of undertaking usually proposed by supporters of the policy does not represent investment in a purely commercial sense ; it will not pay for itself out of its own profits. But the desirability or otherwise of public expenditure cannot be left to be decided by any such criterion as this. The case in favour of slum-clearance is not weakened by the impossibility of making profits out of it. There are strong reasons for employing men and materials on work of social importance such as this, even if it means withdrawing them from the production of capital goods for commercial uses ; the reasons are a thousand times stronger when there is every probability that if they are not employed in this way they will not be employed at all. To limit the Government expenditure to the creation of revenue-producing assets is not only to justify the charge of competition with private undertakings, but to subject the activities of the Government to the very restrictions which hinder the expansion of private investment.

III. The public-works proposal, in short, offers the best opportunity available for bringing about such further revival as can be accomplished by the expansion of domestic demand. At the same time it must not be supposed that the expansion of domestic demand by itself will automatically solve

the problem of the "special" areas. This problem is due fundamentally to the decline of the industries whose sales to the outside world formed the foundation of the local economic life; and its solution demands either a large-scale transference of population or the replacement of the old industries by new ones. The public-works policy will create the general expansion of demand which is necessary for the encouragement of new industries, but it will not by itself secure their location in the areas most capable of benefiting from them. The depressed areas are for the most part better suited geographically to production for export than to production for the home market; moreover, their local authorities are heavily burdened with relief charges and rates are consequently high. Thus if left to themselves the expanding industries are likely to prefer the new industrial districts of the relatively prosperous south. There is a strong case, therefore, for a special effort to revive local demand in the depressed areas by careful geographical planning of the public-works schemes, and for increasing their attractiveness to industrialists by granting concessions at the national expense. The latter object might be achieved by transferring some of the financial burdens of the local authorities to the Central Government and by subsidizing the railways to grant special transport facilities to factories operating in the depressed areas. Unless steps of this nature are taken, a public-works policy might have the effect

of intensifying the tendency for industry to migrate to the south, and accelerate the process which threatens to render permanently useless not only the labour which is available in the older industrial areas but also the social capital sunk in them in the form of roads, buildings and railways.

A further obvious limitation to which the policy of public works is subject is that the revival of demand which it can engender must necessarily be a revival of internal demand and not of international demand. But for a country so dependent on international commerce as Great Britain the revival of international demand is also a matter of the greatest importance. At present the volume of world trade is less than three-quarters of its volume in 1929 ; and its value is about one-third of its value in that year. Its expansion is hindered principally by the fact that financial conditions favourable to recovery have not yet been established in all countries. The most substantial measure of recovery from the depth of the depression has been achieved, broadly speaking, by the countries which have abandoned the gold standard, and have thereby been enabled to pursue a financial policy calculated to assist trade revival. But their abandonment of the gold standard has concentrated the force of the depression on to its remaining adherents, and it is now the turn of the countries whose financial strength enabled them to survive the crisis of 1931 to feel the

effects of an insecure financial position and an over-valued currency. It is the continuance of deflation in these countries, and their attempts to maintain their financial equilibrium at the expense of international trade by means of tariffs and quotas, which—along with the persistent uncertainty in the United States—offers the chief immediate obstacle to world recovery.

The removal of these difficulties obviously falls outside the power of British policy. A solution could easily be found to the financial problems of the European gold-standard countries if they would give up the attempt to maintain their currencies at a gold value which is becoming more and more artificial. Although the depreciation of the remaining gold currencies would intensify the competition which British manufacturers face from the Continent, it would nevertheless create conditions favourable to the general growth of international demand. But the adoption of this course is hindered by the irrational—and almost pathetic—fear of monetary experiment which is the legacy of the post-war inflations. The alternative to it is the maintenance of present gold exchange rates at the cost of an increasingly complex system of import restrictions and exchange controls; with the probability that in any case virtual depreciation will sooner or later be permitted, as in Germany, by the use of special types of currency and special rates of exchange for particular classes of transactions. Anything which prevents the growth of

economic nationalism and bureaucratic control of this type is clearly to be welcomed, in the interests of the countries concerned as well as the outside world, even if it is a financial crisis which destroys the gold standard in its present form.

It is argued in some quarters that Great Britain could make a contribution to the solution of the international monetary problem by herself re-establishing the gold standard, since this would remove uncertainty regarding the future exchange value of the pound, and thus help to create a more confident atmosphere. But the return of the pound to gold at present rates of exchange would be of no assistance to the gold-standard countries. In any case the present situation is largely the outcome of the breakdown of the international monetary system of which the gold standard is the symbol; and Great Britain might lose much by sacrificing her present monetary independence. If a single monetary standard is again to prevail throughout the world it is essential that it should be a "managed" standard. A managed international standard is impossible unless the world's monetary policy is determined as to its main direction either by a single international authority, such as a world Central Bank, or by active international co-operation on the part of the principal countries. No one can claim that either of these conditions could easily be realized at present. Though a properly functioning international monetary system is in theory a desirable ideal, post-

war experience suggests that it belongs to the same order of ideals as universal free trade.

In the circumstances of to-day Great Britain can make a larger contribution to the welfare of the world by the successful management of the paper pound than by returning to the gold standard. It is true that the automatic stabilization of the foreign exchanges which the gold standard brings about is, in itself, valuable advantage. But there is no reason why the existence of an inconvertible currency should make fluctuation of the exchanges inevitable to any embarrassing degree, if underlying economic conditions are stable. The world is prejudiced against paper currencies because it has had no experience of them except under conditions which have been far from stable. It is open to the British monetary authorities to dissipate some of this prejudice by the free use of the resources of the Exchange Equalization Fund and of the Bank of England to secure reasonable stability of the exchanges. Between the policy of returning to the gold standard on the one hand, and thereby establishing a rate of exchange from which deviation will not be permitted however its maintenance may conflict with the monetary requirements of the internal situation, and the opposite policy of leaving the exchange value of the currency to the mercy of an uncontrolled and mercurial market on the other, there is plenty of room to steer an intelligent middle course. At the same time it is in the direct

interests of this country to promote the growth of international trade by encouraging the liberalization of import policies (her own not excluded), and by resuming her traditional rôle as an international lender.

